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*Specification of a year after the name of a member of the Executive Committee indicates the year in which the term of office terminates at the time of the annual meeting.

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Dedication

The Members of the Executive Committee of the American Association of Colleges of Pharmacy express their gratification in joining with the Editor of the *American Journal of Pharmaceutical Education* in dedicating this issue of the twenty-fifth volume of the *Journal* to one who served for many years as a member of the Publication Committee of this journal and as an inspiring and devoted worker in the American Association of Colleges of Pharmacy.

ZADA MARY COOPER



Zada M. Cooper



Feature Section

R. A. KUEVER*

PROFESSOR EMERITUS ZADA MARY COOPER

She came as the valedictorian of her high school class in the fall of 1895. She came from the quaint rural village of Quasqueton, Iowa, situated on the banks of the classic Wapsipinicon River in Buchanan County. She came as a nice, rather pretty girl with an abundance of golden chestnut hair. If pony-tail hairdos had been in vogue at that time, she probably would have had one. She came to the campus of the State University of Iowa to matriculate in the college of pharmacy. It has been said, many times, on every campus of every college and university in the land, that "some college girls pursue learning, while others learn pursuing." She came with the former uppermost in mind. She came to carve for herself a successful, professional career of her own liking, and this she definitely did. She came to study pharmacy probably because several of her relatives were and are engaged in the practice of the health professions. This is a brief biographical

sketch of a famous personality in pharmacy—Emeritus Professor Zada Mary Cooper.

While pursuing the courses in the college of pharmacy she soon distinguished herself as a scholar and as one who possessed an abundance of the attributes necessary for a successful teaching career. At the conclusion of the two-year course of study, which was then the standard pharmaceutical curriculum, the dean of the college offered her an assistantship in pharmacy for the ensuing school year. This she accepted and at once began to develop a conservative, professional, pharmaceutical philosophy that has become a rare dedication to a worthy cause and has remained with her as a major thesis throughout her active life. By steady, dependable principles, in a few short years she demonstrated clearly that she had the effort

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and the energy and the ability to become an inspired and inspiring teacher. During her forty-five years of teaching at the State University of Iowa Miss Cooper was an assistant in pharmacy from 1897 to 1905. During these years she was also registered as a student in the collegiate department of the University, now the college of liberal arts, in which she pursued subjects of her own selection. She was an instructor from 1906 to 1912; an assistant professor from 1913 to 1924; and an associate professor from 1925 to 1942, when she retired. At that time she was awarded emeritus standing by the University administration. It was a morning of lumps-in-the-throat at the college of pharmacy when she announced her resignation. Her constant fairness and willingness to work with other members of the staff in a fine compatible manner, on any assignment, made her a distinct favorite. Her forty-five years as a staff member at the State University of Iowa, her outstanding ability as a teacher and her capacity to work successfully with young people have enshrined her in the hearts of alumni now located in every state in the Union, including the forty-ninth and fiftieth, in Puerto Rico and in many foreign countries.

Early in her connection with the college of pharmacy she organized and developed the first departmental library. What had previously been a mere reading room, frequently cluttered and littered, became by her efforts a small, first-class, well-indexed pharmaceutical library, shelving the more important text and reference books and the leading pharmaceutical journals. Later, when more space was available, the library was enlarged and a full-time, trained librarian was employed under her supervision.

Professor Cooper taught pharmaceutical arithmetic and the pharmaceuti-

cal laboratory courses. Her theory in teaching the former subject was that the subject can always be understood when taught by him who understands it. Arithmetic, at any level, is a difficult subject to teach and especially at the pharmaceutical level, involving as it does the several systems of weights and measures, dilutions, concentrations, percentage and chemical problems, et cetera. Miss Cooper understood pharmaceutical arithmetic, and she was able to teach the subject so that the student understood it. She was also a most able teacher in the pharmaceutical laboratory courses, being well qualified herself to demonstrate any part of any experiment that was being performed at the time.

In 1924 the staff of the college decided to publish a little news journal to appear six times during the school year. Its primary purpose was to keep in touch with alumni and friends. It became one of the University publications, named the *College of Pharmacy News*. The range of material edited was rather wide though always within the pharmaceutical and University realm. Such items as activities of staff members, of students and of alumni were always found; prizes and honors were announced at appropriate times; gifts to the Veteran Druggists Museum were pictured and described; outstanding University and campus events were mentioned, et cetera. After a few mailings it soon became abundantly evident that the *College of Pharmacy News* was really appreciated. From the beginning until her resignation Professor Cooper served as the able editor, and it was largely her fine ability as a pharmaceutical journalist that made the *College of Pharmacy News* the popular publication that it so quickly became and has remained throughout all these years.

There were other achievements as the result of Miss Cooper's extracurricular

activity that paid good dividends. In 1942, after long and patient negotiation, she had the satisfaction of seeing her efforts come to fruition in having the Bachelor of Science in Pharmacy degree at the State University of Iowa approved by the American Association of University Women, thus making alumnae of the college of pharmacy eligible for membership in that more than seventy-year-old national society with around 75,000 members from colleges and universities of high standing.

In addition to her work at and her many contributions to the University Miss Cooper was an energetic worker in the American Conference of Pharmaceutical Faculties, organized in 1900, which, in 1925, became the American Association of Colleges of Pharmacy. From 1918 on and for a long time thereafter she was an active member of the Committee on Activities of Students and Alumni. She was the chairman of the Committee when, in 1921, it recommended the establishment of a national honorary society for men and women. The following year a national organization was perfected and incorporated under the name, the Rho Chi Society. In 1922 the American Conference of Pharmaceutical Faculties gave its approval to the society and to the work of the Committee headed by Miss Cooper which had worked so long and so diligently and had recommended its formation. The Rho Chi Society, now a great student organization, has sixty-three chapters in the leading colleges of pharmacy in the land. Its very commendable objective is to encourage better scholarship. Miss Cooper, a member of the first Council of Rho Chi, also served as the president for two years, from 1938 to 1940.

In 1918 Miss Cooper was chairman of a special committee to investigate short-term courses in pharmacy, of which there were a considerable num-

ber at that time. Her report to the American Conference of Pharmaceutical Faculties was illuminating and interesting. A paragraph from the conclusion will suffice to indicate its content:

The public has these (short-course trained) registered pharmacists thrust upon it and only the recording angel knows how many fatalities are traceable to errors of incompetents. Then the good name of our profession is besmirched. How can we expect professional standing while such a condition exists? Some of the institutions which are in states where prerequisite laws have been enacted must soon be singing their swan song unless under stress of present conditions some reactionary legislation is obtained. Obviously, this is not the time for those of us who want to see pharmacy receive the recognition the real thing deserves, by the government and by the people, to fall asleep at the switch.

In 1928 she was chairman of the Committee on Relationships of Boards and Colleges. Two very important recommendations stemmed from this Committee that year. The first declared that the three-day school-week, still customary in a few schools of pharmacy, was inadequate; the second approved the giving of the written part of the licensing examination when college work was completed even though the practical experience and/or the age requirements had not been fully met.

For twenty years Miss Cooper served the American Association of Colleges of Pharmacy as secretary-treasurer. She was elected to this office in 1922 when the organization was still known as the American Conference of Pharmaceutical Faculties, and she retired in 1942, the year she resigned her position on the University faculty. It was in this or-

ganization that Miss Cooper's most effective association work was accomplished over these many years. It is safe to say that she contributed immeasurably more than any other single pharmaceutical educator for the entire time that the Association has existed. During these years great progress in pharmacy was made, in all of which she had an important part as the one continuing officer. The Association was renamed to designate more clearly its proper function; the Association was practically reorganized with respect to its committees, standing and special, to provide better, definite objectives; teachers' conferences, within the Association, were established; the American Council on Pharmaceutical Education was formed; the *American Journal of Pharmaceutical Education*, the only journal in the United States dealing with pharmaceutical education, was started; the pharmaceutical curriculum was increased from two to four scholastic years; by tremendous effort the job was finally completed, though vigorously opposed, to give every state a prerequisite law, credit for which must be shared with the National Association of Boards of Pharmacy. As treasurer, Miss Cooper's annual report at each meeting would have been the envy of a New York banker.

In consideration of her long and faithful service, the Association, at the time of her resignation in 1942, voted to confer honorary membership upon Secretary-Treasurer Zada M. Cooper. To provide for this, an amendment to the Constitution was necessary. This amendment was enacted at the 1944 meeting. The Executive Committee was authorized and instructed to prepare a suitable scroll for Miss Cooper for her long and devoted service to the Association. Beautifully engraved in color on parchment, the scroll reads as follows:

EULOGY

Professor Zada Mary Cooper
from
American Association of Colleges
of Pharmacy

After many years of devoted service to the cause of pharmaceutical education at the State University of Iowa and in a large way as Secretary-Treasurer of the American Association of Colleges of Pharmacy PROFESSOR ZADA MARY COOPER has severed her connections with that institution and with this organization, that she may do some things she has always wanted to do and things she has not been able to do.

Through the years of service she has, in her quiet, forceful way, been the influence around which this Association has functioned, not only in its internal affairs but in its relationship to the National Association of Boards of Pharmacy, the American Pharmaceutical Association, and the other affiliated societies. She has been the one individual who has under all conditions and in all relations kept her balance and has been able to give unbiased, competent, and constructive advice to presidents, officers and committeemen alike wherever it has been called for.

Miss Cooper's resignation will leave a great vacancy in this organization which will remain as long as this generation of men shall ride the range, and her influence will continue to live as long as the Association lasts.

To you, Miss Cooper, we wish many long, happy and fruitful years, and season after season as this group comes together we hope

you will be sitting with us, and if that is impossible, you will be with us in spirit and we will be with you.

This eulogy was approved unanimously by a rising vote.

Denver, August 17, 1942

Throughout her teaching career Professor Cooper was an active member of the Iowa Pharmaceutical Association and the American Pharmaceutical Association. In the latter she presented papers at meetings of the general Association and before the Women's Section. She served as chairman of that Section in 1917-1918.

On the first page in a most attractive little manual entitled *Kappa Epsilon Prospectus* one finds these words: "Kappa Epsilon is a national fraternity for women in Pharmacy." On the second page, adjacent to a picture of her, this statement appears: "Founded by Miss Zada M. Cooper, Faculty Member of the College of Pharmacy, State University of Iowa." This is once again to indicate that her influence and service extended far beyond the campus as her immediate duty to university students. It was she who arranged a meeting of representatives of the local women's pharmacy clubs of the University of Minnesota, the University of Nebraska and the State University of Iowa in Iowa City on May 13, 1921, at which time Kappa Epsilon was founded. Miss Cooper had previously prepared a preliminary draft of the constitution and bylaws. She was immediately chosen as an honorary member and the faculty advisor. Somewhat later she originated and edited *The Bond*, the official sorority magazine. The purpose of the sorority, according to the Manual, is to advance scholarship among women students in pharmacy, foster professional consciousness, and provide a bond of lasting loyalty, interest and friendship.

How fully this purpose has been met is evidenced by the fact that in 1960 Kappa Epsilon installed its twenty-eighth chapter at the Southern College of Pharmacy in Atlanta, Georgia. Twenty-seven chapters are active and flourishing. One chapter has become inactive because the college of pharmacy at which it existed has been discontinued. In addition ten alumnae chapters are functioning in cities throughout the United States. If it is true that happiness is the reward of success attained by labor which promotes the happiness of others, then Zada Mary Cooper is extremely happy as her shadow lengthens and her memory recalls the birth of Kappa Epsilon.

Many non-pharmaceutical honors have come to Miss Cooper through the years in recognition of her ability and her fine accomplishments. To mention only a few: she served as regent of Pilgrim Chapter of the Daughters of the American Revolution; member of the University Club; honorary member of Iota Sigma Pi, the chemical sorority for women, and others.

In addition to her many other achievements Miss Cooper is an accomplished musician. Earlier in the century, when it was customary for faculty members to entertain staff and students in their homes, Miss Cooper would occasionally thrill the audience with several well-chosen selections on the piano. She would give evidence that she was as familiar with Beethoven and Bach as she was with balance and burette. Music and melody, like poetry, has been a secondary language of many famous scientists, pharmacists, physicians, and Miss Cooper is no exception.

In 1947 the State University of Iowa celebrated its one-hundredth anniversary with various festivities and varied activities commemorating the occasion. Among them was a general historic summary of the University and its integral

colleges. Although Miss Cooper had resigned her position on the staff in 1942, she generously responded to a request to write a history of the college of pharmacy from its beginning up to that time. Her fine journalistic ability plus her thorough experience with the college and its alumni enabled her to write a very complete, 274-page volume that will always be of great value to the school and a worthy tribute and memorial to her.

Miss Cooper now resides with her older brother, a physician, at 102 North Fifth Street, Villisca, Iowa. She retired, although she loved teaching, before Father Time required it. Announcing her resignation, it was felt, was as

depressing to her as it was to her colleagues. She retired because her widowed brother continued to prevail upon her to come to be his companion. For a number of summers the two had enjoyed extensive travel, and this they have continued through the years with a good deal of pleasure and enjoyment.

Miss Cooper's devotion to and interest in pharmaceutical education continue unabated as she keeps in touch with the pleasant memories and the abiding friendships of bygone days. To those of us who have labored in the field of pharmaceutical education during the first half of the current century she will always be the grand and gracious lady of pharmacy.

FROM QUASQUETON

TO VILLISCA

Dean Emeritus Kuever's encomium to Miss Cooper is concerned primarily with her activities during her tenure on the staff of the University of Iowa. This short report is a résumé of a personal interview we were able to arrange with Miss Cooper. It is meant to provide more personal information to our readers about the honoree, and to inform her many friends of her current interests, health and well-being.

Dean Kuever has mentioned that the birthplace of Miss Cooper was Quasqueton, Iowa, situated on a bank of the Wapsipinicon River in the northeast corner of the state. She now resides in the town of Villisca, Iowa, which lies in the valley of the Nodaway, diagonally across the state in the southwest corner. The F104 jet plane requires 8.5 minutes to cover the 200 mile straight-line distance between the two towns. For Zada Mary Cooper the route from Quasqueton to Villisca has been less direct than the course the jet flies, interrupted by many side journeys, and has spanned a time lapse of eighty-five years to the present.

Early in October of 1960 we visited with Miss Cooper in the comfortable home she shares with her brothers. It was a natural blue and gold day, typical of autumn in central Iowa. The sun was bright and golden; the sky was blue. The bountiful harvest of golden corn had just been started, and here and

there over the countryside one could view a field of corn in shock, reminiscent of less modern times—days familiar to Miss Cooper, perhaps—when the shock and the pumpkin were the harbingers of fall, Halloween and winter. The beauty of the day proved to be symbolic of the pleasure of the visit we enjoyed with Zada Cooper.

It had not been our privilege to meet Miss Cooper before our visit, and our apprehensions were many as we stood on her threshold waiting for an answer to our knock. From the moment she opened the door and smiled a greeting, our anxieties fell away as the fall-colored golden elm leaves had fallen to cover the approaches to the Cooper door.

The eighty-five years borne by Miss Cooper have turned the "abundance of golden chestnut hair" to white—still piled high upon her head. The years have slowed her step and shortened her stride, but the charm of her smile proclaims a gracious mien that, we are sure, has been enhanced by the passage of time.

Our interview took place in the music room, where the grand piano, the music stands and the violin in its open case were testimony to the musical ability that lately entertained the friends of the

*Editor, *American Journal of Pharmaceutical Education and Professor of Pharmacy, Drake University*

Coopers. There are no longer any musicales, but the interest in good music remains.

We had fortified ourselves with a number of questions to propound to Miss Cooper. Her answers were given with verve and alacrity, often accompanied with the quick smile and a pixy-like raising of the eyebrow that signaled a particularly witty reply and a lively interest in the topic under discussion.

It is interesting that Miss Cooper is the only member of her family who entered pharmacy. She credits her two older brothers with encouraging her interest in this profession. This advice, given to her more than sixty years ago, attests to the farsighted thinking of the Cooper brothers, for a woman in pharmacy in those days was not a common thing.

The matter of few women in pharmacy was one of the things that most impressed Zada Cooper in her first days as a university student. This situation was also one of the aspects of college living that made her years as a student in a male world most enjoyable. But, then, Zada Cooper confesses that she would have enjoyed living as a student under any circumstances, the same as she has enjoyed living at any time in her life.

Miss Cooper admits to no disappointments as a student. She liked the work and she cherished the acquaintances she made. She claims to have been easily pleased or to have been capable of making necessary adjustments to unpleasant situations.

It may seem unusual to some of us who more or less blundered into teaching that Miss Cooper planned to enter this field immediately upon being graduated. Here, too, her older brothers exercised some influence, urging their sister to select this vocation.

Miss Cooper does admit to one disappointment as a teacher—the same

disappointment suffered by many of her colleagues—the “dull student,” as Miss Cooper referred to him, who showed up occasionally. Miss Cooper's understanding nature comes through when discussing these individuals, however, because she suggests that their poor academic showing was due to a lack of interest more than to a lack of aptitude.

Miss Cooper maintains an active interest in the affairs of the *Journal*. She still subscribes to the publication and reads it carefully and completely. Her particular interest is in the feature articles dealing with pharmaceutical education. She is happy in the fact that pharmaceutical education is progressing, but she has some doubt that the progress is rapid enough.

The *American Journal of Pharmaceutical Education* is not the only professional magazine read by Miss Cooper. The reading stand by her favorite rocking chair is piled high with the latest issues of the *Journal of the American Pharmaceutical Association*, *Practical Edition*, the *Northwestern Druggist*, the *Iowa Pharmacist*, and others, all showing evidence of having been read.

To our query as to what advice Miss Cooper might have to students in pharmacy and to young members of the teaching profession, her reply was the same: “Like it and work hard. If you work, you'll like it.” This sage bit of advice has served Zada Mary Cooper well for years and is counsel which should not be taken lightly by anyone.

The increase in the number of women entering pharmacy is of particular pleasure to Miss Cooper. Through the years she has attempted to foster the interest of more women in this profession, through personal contact, her activity in Kappa Epsilon, the Women's Section of the A.Ph.A., and other ways. It is still her belief that there is as much opportunity as ever—and perhaps more—for women in pharmacy, because the

public has learned to accept and respect women in the professions.

Miss Cooper's days are not spent entirely in keeping up with the problems and successes of pharmacy and pharmaceutical education. She has a household to manage, and she dearly enjoys the work. Her mornings are occupied in "bossing" a housekeeper and making certain her brothers are properly cared for. The afternoons are reserved for reading, writing, and visiting. There are no longer any fishing trips with her brothers or journeys with her physician brother to intra-professional meetings; but, there are frequent evenings out for dinner and an occasional meeting at the lodge.

It is regretful that more people who

have not known Miss Cooper cannot enjoy the spiritual uplift provided by spending an afternoon in her presence. The interest and concern she maintains for her profession, at a time in her life when there is no need for involvement, are remarkable. Here, indeed, is an object lesson for all of us who presume a dedication to pharmacy. What will be our attitude and activity at age eighty-five?

It would be a proper event if, on the occasion of the dedication of this issue of the *American Journal of Pharmaceutical Education* to her, this charming person, truly the "grand and gracious lady of pharmacy," as Dean Kuever has referred to her, should be congratulated by her many colleagues.

"LYMAN'S JOURNAL"

Never have I consented more willingly or enthusiastically than I did to the request that I write this brief article, having to do with "Lyman's Journal," which became the *American Journal of Pharmaceutical Education*.

"Lyman's Journal" seemed an appropriate designation during the early years of its life. Had it not been for Rufus A. Lyman, the *American Journal of Pharmaceutical Education* would not have been initiated twenty-five years ago. Had it not been for his continued impelling support, it might well have died in infancy.

Worthy, profound projects are never the work of a single individual, but it would not be too inappropriate to refer to the starting of our *Journal*, now so generally accepted and approved, as a "one-man" job. It was Lyman who conceived the *Journal*. He officiated skillfully at the time of its birth, and he nursed it through its early years when its life was sometimes in danger.

It is not to my credit that, as chairman of the Executive Committee at that time, I was not one of its ardent promoters, nor, as I recall, were any of the members of the Executive Committee. I, of course, gave it solid support following its formation and trust that I

have partially atoned for my lack of vision by helping to obtain financial support from the American Foundation for Pharmaceutical Education and by helping it in other ways.

Rufus A. Lyman was a man of great loyalty to his friends, but of even greater loyalty to the things which he thought of as being right and in line with progress. This accounts for his devotion to the *American Journal of Pharmaceutical Education*. I recall that, on one occasion, he made a statement substantially as follows: "I will reluctantly oppose my best friend, or even an elder in the Presbyterian Church, if I believe that his ideas are unprogressive. I will properly work with any man, even a Democrat, if I am convinced that our cooperation will make for real progress in the field of pharmaceutical education."

Lyman's quiet persistence and continued pressure on the members of the Executive Committee were, I believe, rather characteristic of his method of procedure. He would usually wait until everyone had presented his arguments and then, in a quiet, homely manner,

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without offending anyone, would convince us that his recommendation was the proper one.

Perhaps I can best illustrate what I have in mind by relating, as accurately as I can recall it, an incident which occurred in a meeting of the AACP nearly three decades ago. I do not remember the exact question under consideration, but I recall that a discussion of academic standards was involved. Many deans and professors took part in the discussion, which gradually degenerated into an expression of enthusiasm for failing students. Dr. Lyman became less easy as the discussion progressed and finally arose and, in his characteristically direct and unembellished manner, commented about as follows:

"I hope you will not be too severe with me when I say that I have been quite distressed by the discussion here this afternoon. I fail to see how one can be elated by the fact that colleges are admitting a considerable number of students who either should not have been admitted, or who have not been stimulated to make full use of their talents. I realize full well that in order to protect the integrity of our degrees that students, too many students, must be failed in their college work, but let us carry out this responsibility regretfully, and not with satisfaction. For us to say that 40 per cent of our student body should fail because that is the percentage of failures in colleges of arts and sciences is folly! Maybe we can do a better job and enable a much larger percentage of them to prove successful. We say to our students, 'This is your Alma Mater, your College Mother. You must love her and honor her and revere her always.' But I ask you, my colleagues in the AACP, have you ever known a mother worthy of the name who boasted of high mortality among her children? We shall find it necessary to continue to fail students in our col-

leges of pharmacy, but let us do it regretfully, and obtain our satisfaction from those we succeed in helping and not from those we fail."

The discussion stopped there. There was nothing more to say. In two minutes Dr. Lyman had said it all. The challenge confronting pharmaceutical educators was a better selection of students and a higher standard of teaching. Our goal should be to do not merely as good a job as is being done in other university colleges, but a better one.

That is precisely the manner in which Dr. Lyman operated before the Executive Committee of the AACP when our *Journal* was "aborning." He listened courteously and with interest to all we had to say and then continued, forcibly but unoffendingly, to present his case. The result was the *American Journal of Pharmaceutical Education*. He had silenced all of us and convinced most of us of the wisdom of his recommendation. A unanimous vote followed.

I have tried to present something of the spirit which was responsible for the starting of our *Journal*. In so doing it was, of course, necessary to give Rufus A. Lyman the center of the stage.

What our *Journal* has been and is today is recorded in its published volumes, which are available to all. It is my opinion that it has completely justified itself, and will continue into the foreseeable future.

Its future development will be determined by the capable young men now responsible for its management. They know better what course it should take than do we, who nourished and strengthened it, decades ago. I, for one, have great confidence in the men who are the architects of the pharmaceutical education of tomorrow. I respect their potentialities, as I revere Dr. Rufus A. Lyman and his manifold accomplishments.

ANNIVERSARY GREETING TO OUR JOURNAL

Greetings to the *Journal* on the occasion of its Twenty-fifth Anniversary are presented not to impersonal accumulated volumes of printed matter, but to something which—to many of us—is a real, lively, vital personality that has been with us for a quarter of a century. It is hoped that it will continue to grow in stature and in even greater respect by the teachers in the pharmaceutical sciences and others in this next quarter of a century.

During the existence of the *Journal*, it has had only two editors—one for twenty years and one for five years. Its first issue contained editorials from Messrs. Little, Kelly and Rudd (pp. 95-97), and the first editor's page (pp. 103-105) by Editor Lyman tells how the *Journal* "came about," "who shall receive free copies," "what shall be printed," etc. Editor Lyman encouraged young faculty members to express opinions through the pages of the *Journal* throughout the years, and under his editorship, in spite of lack of suitable financing, the *Journal* became recognized as an outstanding one devoted to pharmaceutical education and auxiliary activities.

Guest editorials, special articles by persons with and without pharmaceutical training, articles by teachers on innovations in teaching methods and course content, book reviews, news items, all were worthy of 100 per cent support of pharmaceutical education—

which was never realized. This fact made it necessary to interest the American Foundation for Pharmaceutical Education for its financial assistance and for its continued support, for which the Association is deeply appreciative.

So great was the interest in contributing to the *Journal* that Editor Lyman was never able to catch up on the publication of the articles submitted, with the result that many were published so belatedly that their contents lost some of their effectiveness.

The second editor, Dr. Melvin Gibson, dedicated the first issue of the *Journal* under his editorship to Dr. Lyman with five outstanding contributed articles. During his five-year tenure, Editor Gibson increased its prestige, attempted with some success promptness of publication, continued to strengthen many sections, including a forthright editorial section, and introduced a change in format.

The *Journal* starts its second quarter century under a new editor, Dr. C. Boyd Granberg, in a more rapidly changing world in events and problems and a new step in pharmaceutical education. The best wishes of the President, who has been a staunch supporter of this *Journal*, and the Association are extended to the *Journal* in its changing role and continued influence and prestige in this second period of its existence.

*Dean, College of Pharmacy, University of Texas and President, AACP

OUR JOURNAL IN THE NEXT 25 YEARS

As Chairman of the Executive Committee of the AACP, and as a member of the Publication Committee of the *Journal*, it is one's privilege to dream a bit. These dreams, then, may be passed on to the members of the Association for their acceptance, modification, or rejection. No doubt it was in this spirit that Editor Granberg asked if I would contribute to this Twenty-fifth Anniversary Issue in speculation of what the next twenty-five years could mean to the *Journal* and pharmaceutical education.

At the outset I wish to exonerate the editor or any member of the Publication Committee, as well as members of the Executive Committee of our Association, in any statement that follows. I am expressing only my own views; if you disagree, send your complaints to Storrs, Connecticut.

Certainly no one can do anything but add praise for the dedicated, devoted and constructive way in which each of our previous editors has brought our journal to the high place it now holds in the field of public health professional publications. For this we are thankful to the late Dr. Rufus A. Lyman and to Dr. Melvin R. Gibson, who has just relinquished this post.

Our journal, as it has done in the past twenty-four years, will continue to serve as a historical record of the acts and deeds of the Association. In this reflection, we can be proud of our past and look forward to our future with confidence.

Having the *Journal* within easy reach should be as essential as the use of any other tool of our teaching profession. Our subscription list should be as near 100 per cent of our full-time membership of pharmacy teachers as is possible among the members of our seventy-seven schools and three affiliate members. I am fully aware of the real efforts ex-Editor Gibson made to increase this subscription list. Results did come, but not in the proportion we should have had, nor at the rate we can anticipate in the future.

Our small percentage of subscribers is a deep regret to all of our association officers, past and present. This journal belongs in the personal libraries of each of us; it is not enough that it may be available in the school library. We must find a way to increase this subscription list in the next quarter century.

This journal should be more nearly self-supporting. This may sound a bit utopian, but it is one goal for the next twenty-five years and the sooner reached the better. We should review again the matter of membership in one of the Teachers' Sections and a subscription to the *Journal* as a "package deal." There are other ways which might serve to realize this end. We know that subscriptions alone have never fully supported journals. We might review the possibility of revenue from institutional

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advertising. I do not mean direct sales advertising. Institutional advertising can be dignified and not bring discredit to the pages of the *Journal*. We might call into being the well-tried Patron List further to assure such self-support.

Further communication from our members can make the life of our editor somewhat easier and increase the value of the *Journal* as a communications medium. Organization men know well that written articles can serve as a quick way to develop crystallization of association policy. Articulate members of our profession, concerned with future policies and ways to implement them, will develop our journal to a point where subscription demands will increase. Could a few of these thoughts have merit for future development?

The *Journal* long has been rich in articles on methods of course presentation as well as course content. Each of us as teachers might benefit by further consideration of the practice of teaching, as well as the philosophy; we should consider new laboratory processes for teaching at the undergraduate level with emphasis upon the experimental approach.

Might not the next few years bring increased inclusion of problems and papers by our Canadian affiliates? We might, perhaps, reflect a Western hemisphere approach to more pharmaceutical problems.

We should not limit regular features of the *Journal* to a "President's Page" alone; it would be most useful if our secretary could make his announcements and add comments in a section of his own.

Our journal should continue to serve as the place for the papers and proceedings that are to be published from our Teachers' Seminars, and only through a membership-subscription should these records become available.

I am certain that we should continue

the policy of upgrading educational standards wherever possible, of informing the members of our profession about the vital issues before us, as well as of furnishing material which will bring about solution of our problems. Support and constructive criticism from our members concerning ways of making this publication a necessary adjunct to good teaching should be most welcome.

As our AACP grows in size and strength, so must our journal. Just as soon as we stop growing, we start dying, as an individual or as a journal.

We seek constant improvement in the nature of what these pages will carry for the next twenty-five years and beyond. We must make a vital appeal, or we cannot justify our journal's existence.

Those of us who will be watching from the sidelines in the quarter century ahead welcome the support of the many fine younger teachers in our schools and colleges of pharmacy. It is time that they become vocal and express their views, directly or indirectly, to members of the Publication Committee or through direct communication with our editor.

We shall benefit by the lessons of the past twenty-five years in all phases of our publication experience. These should be put to work in bringing to us great advances in the twenty-five years just ahead. Good wishes for success are not enough. We must participate in developing this journal as an effective communications medium, one reflecting a type of policy and thinking which will develop the best possible public relations in and between our public health professions.

We can look forward with great confidence to the future of our journal. We wish our editor, C. Boyd Granberg, much pleasure, and every possible success that an intelligent and cooperative membership can offer to him.

Addressess

CHARLES W. BLIVEN

ADDRESS OF THE PRESIDENT

Not long ago I noted in the business section of our daily newspaper the headline "You Can So Get There From Here." This, of course, is but a slight variation of the oft-used, facetious remark with which all of us are familiar. As I continued to think of this expression, I found myself applying it to pharmacy's current position.

First of all, this statement directs our attention to the fact that we know where pharmacy stands today. While this may be questioned by some in view of what has been happening in the Caucus Room of the United States Senate Office Building, I do not think the events, as of this time, disturb our present position. Rather, they will cause pharmacy to examine its objectives and its methods of achieving them. The result will be beneficial to the profession and to the public.

During the past decade our schools and colleges of pharmacy have produced the best-trained professional per-

sonnel in the long history of our educational system. Currently we stand at the threshold of a new educational era, highlighted by an expanded program which will provide even better practitioners not only for professional life but also for community life.

The pharmaceutical industry today leads the world in the production of effective medicinal products. It has gained this position during the past two decades under our competitive economic system.

Our distributive system, through our 52,000 drug stores and 3,500 hospital pharmacies, is today providing the most effective distribution of our health-giving drugs that our country has ever known. This, together with the worldwide distribution of American drugs, enables more people than in any other period of our history to have the advantage of our production and distribution "know-how."

This is pharmacy's position at present.

"You Can So Get There From Here." Secondly, this statement implies that we know where we wish to go—what our goal for the profession is. Although the horizons have been clouded momentarily, I am confident the goal remains the same—the production of drugs for the cure of those death-causing diseases now at the top of the list and for the further alleviation of the symptoms or the cure of the chronic diseases affecting our aging population. These drugs of the future will be produced and distributed by personnel trained in the graduate and undergraduate programs of our schools and colleges of pharmacy—more pharmacy by pharmacists, if you will. And, I wish to add, these drugs will *continue* to be made available to all who are in need of them regardless of their economic status. However, the goal is that the production and distribution of these drugs be carried out under our existing competitive economic system which has led American industry to the heights it enjoys today.

In my opinion, these are goals for the profession—goals which will be achieved in time for most of us to enjoy. "Fall-out" from the Kefauver hearings may produce a slight amount of nausea among the people, but it will not be sufficient to cause a change in these objectives.

"You Can So Get There From Here." Lastly, and with great significance when we apply it to our profession, this headline indicates that we know *not* exactly how we are going to progress from our present position to our established goal. There is every indication here that the road may be longer than we anticipate, that we may be delayed in arriving at our destination because of obstacles, some of which we can see immediately in front

of us and others which will come plainly into view as we turn the corners along the way.

Significantly, however, this headline does not imply that there is but one route to our destination. No doubt there are many roads which pharmacy can take, but certainly it behooves all of us to study carefully the many paths with which we are confronted and then select the *one* best route, perhaps not the shortest, but the best route to our goal. We may be ambushed occasionally, as at the present time, but I am confident this will not deter us from our goal of service to all peoples.

This is a time of great challenge for pharmacy, but I know that the profession, built on a base of our American way of life, is entirely capable of meeting all challenges and fulfilling its obligation to the public.

It is needless to say, however, that the best abilities of every segment of our profession will be needed in meeting the challenges and achieving our goal. The foot cannot say "because I am not the hand I am not of the body." Our educational system is a part of the "body" and will have an important role to play in the years ahead.

Education's Role

Probably there is no one best role for education to assume, at this time, but rather it will be the cumulative effect of many activities in which our schools and colleges are now engaged. Some of these may be delineated as follows:

1. Give even greater attention to the total qualifications of those whom we admit and graduate.
2. To every extent possible, aid in placing our students with preceptors possessing the professional qualifications, thinking, and motivation we wish to see perpetuated.
3. Seek out and encourage to con-

tinue their education those students possessing leadership and academic ability, not merely encourage those who express an interest somewhere along their academic years.

4. Free our most capable teachers for the further development and expansion of our graduate programs—in the socio-economic area as well as in the areas common to our schools at the present time.
5. Provide our students with the information essential to the understanding of the challenge confronting the profession *and* the information to be used judiciously in giving laymen the profession's true place in our total health-care program.

What additional role our schools can play is not clear at this time. However, a letter has been addressed to the President of the Pharmaceutical Manufacturers Association inquiring of other ways in which we can aid. This inquiry has been given to the Association's public relations department to be considered as they plan for the future.

Legislation of Interest

During the past year your officers followed national legislation of interest to Association members. In this endeavor, we received the full cooperation of Secretary Apple and his staff at American Pharmaceutical Association headquarters.

H. R. 357 and two substantially identical bills, H. R. 6208 and 7289, would authorize the appropriation of federal funds to be allotted to the states in the further development of general extension programs—continuing education, as we have come to term it. The Chairman of the Committee on Continuing Education, Dean Waters, and Ray Dauphinais, director of the

Legal Division of the A.Ph.A., each presented a statement in support of H. R. 357.

At the present time, these bills are still in sub-committee.

A second piece of legislation in which all of you took an active part, I trust, is H. R. 6906 and its companion bill, S. 2170. The bills, you may recall, would authorize a ten-year program of grants for construction of medical, dental, and public health educational facilities. They would provide funds for the construction of new classroom facilities or for the expansion of existing facilities. In general, no grant would be in excess of 50 per cent of the cost of construction; 20 per cent of the amount of any grant for a new school could be allocated to the permanent endowment for the cost of maintenance of the new facility.

The disheartening aspect of this legislation, as you well know, is that pharmacy was left out, in spite of the fact that it was included in the Health Research Facilities Act of 1956. It is true, however, that even here it was not designated by name.

Our efforts, therefore, have been directed to the amendment of the bill to name pharmacy specifically as one of the health sciences eligible for such grants. In our attempt, we sought and received the support of the American Pharmaceutical Association. The Washington representative of the National Association of Retail Druggists did missionary work in our behalf on Capitol Hill.

Hearings on the House bill were held on June 6, and statements in support of the inclusion of pharmacy were presented in behalf of our Association by your President and Chairman Hewitt and in behalf of the A.Ph.A. by Mr. Dauphinais. What the combined success of your letters to your Congressmen and our personal representations

will be remains to be seen. It is safe to expect that but little progress will result this year, meaning that the legislation must be reintroduced at the next session.

The important thing is, however, that pharmaceutical education, its accomplishments and its needs, have been brought to the attention of more Congressmen than ever before. Moreover, we should receive greater consideration and recognition in such future legislation.

There is other legislation in which I should like to see pharmacy included. H. R. 10255, one bill in this category, would make money available to the states for the purpose of awarding scholarships to students of medicine and dentistry. While this bill and two others pertaining to health education were included in the June hearing, the efforts of your officers were concentrated on the classroom facilities legislation.

These or similar bills undoubtedly will be introduced in future sessions of Congress, and your officers will need to be even more alert in order that our rightful place in such legislation can be gained.

One thing was evident as statements were prepared for presentation before the Congressional committees—we need more statistics about our schools and our personnel. We should have the student capacity, in both the undergraduate and graduate divisions, and the number of graduates we can provide at each level with our existing facilities and with our anticipated facilities of five years hence; the manpower needs for the profession as a whole and for the various segments; and a figure representing the cost per year to educate a pharmacist (not the cost to a student for one year of education). This information would be most helpful as we seek inclusion in legislation such as H. R. 6906.

Some information is available, especially with respect to manpower, and the Special Committee on Manpower is charged with the task of gaining additional statistics. However, in order that additional information can be gathered as quickly as possible, it is recommended that the Special Committee on Manpower be continued and be charged with this assignment.

Full-time Secretary

Last year President Zopf expressed the need for a full-time secretary. He stated: "... the duties of the Chairman (of the Executive Committee) and the Secretary-Treasurer are exceedingly demanding, time-consuming, and important. The functional and general organizational problems which are handled by the executive officers and by specially designed committees need focus. This can only be achieved through an individual who devotes his entire time to the problems of the Association and can meet when, where, and as often as pharmaceutical education can serve its membership in any capacity whatsoever."

I concurred with him at that time, and can assure you that this remains as one of the most urgent needs of the Association. The programs of the National Institutes of Health, federal legislation in the educational area of the health sciences, and the need for close cooperation with the American Pharmaceutical Association are some of the reasons for the need of a full-time secretary. We should be taking the initiative in these areas, not taking action after they are called to our attention.

I shall not dwell on this need further, as Past-President Zopf, as chairman of the Special Committee on Full-time Secretary, will report later in the meeting. Also, it is hoped that each of you has weighed this matter carefully during the past year with the result that

it will receive the necessary majority vote in our Executive Session.

The Trimester Plan

In the immediate years ahead colleges and universities throughout the United States will be faced with a continuously increasing number of applicants. It is estimated that 6,443,000 students will be enrolled in colleges by 1970, almost double the enrollment for 1959. Because of this, every possible means will need to be initiated to meet the demand for education beyond high school.

With the increased college-age population and an effective quality-recruitment program, there is no question but what our schools and colleges of pharmacy will be unable to accommodate all who seek admission. In view of our currently limited facilities and the shortage of pharmacy manpower, it will be necessary that we explore all possible means of enrolling a sufficient number of well-qualified applicants to meet our anticipated needs. We may accommodate the required numbers by increasing our physical facilities or by greater utilization of existing classrooms and laboratories. The third and, perhaps, the probable means will be a combination of these two possibilities, as there is a major limiting factor, money, when it comes to enlarging our current facilities. Thus, I am certain that we will be called on to utilize to the fullest extent our facilities even as they may be expanded through the years.

The solution to the problem of greater utilization of existing facilities does not exist solely in graduating students within a shorter period of time, but rather in admitting and graduating more students within a given period of time. These are two entirely different concepts and should not be confused. The first connotes a rigid program of requiring all students, or at least the majority, to go to school the year around;

the second, a flexible program in which students are permitted, yes, in most cases encouraged, to attend but two semesters of a trimester program or three quarters of a four-quarter program. If existing facilities are used, the first program may be the cheaper and the easier to administer, but the fact that it is cheaper must not be the dominating factor in this instance. The second program will require greatly expanded faculties in order that courses may be offered more than the traditional once-a-year and that faculty members may have off an occasional semester or quarter.

As we plan programs to educate more young men and women and thereby aid in meeting our manpower shortage, we must not weaken our programs in order to gain some momentary advantage. Pharmaceutical education is the bulwark of the profession, and any weakening of our program would destroy that which we and those before us have sought to provide and maintain. There are forces, both in and out of our legislatures, which think primarily of the market place and which would grasp any advantage made possible through a weakened educational program. We must, therefore, be united as we think of programs calling for greater utilization of our facilities.

I therefore recommend that the Executive Committee, during the coming year, give consideration to the problem of the extension of the traditional programs to the end that a guiding policy be formulated for the administrators of our member schools and colleges. I believe such a guiding policy would be most helpful, as each of us may be called on to consider this problem with our university administration. I am not thinking of drawing a line of defense but rather of having a well-thought-out plan reflecting that which is best for our students, and hence for

pharmacy, under such programs. Such a guiding policy would, of course, be based on the standards of the American Council on Pharmaceutical Education but would be more specific.

In Appreciation

The ten months that have elapsed since the Cincinnati meeting have been busy ones for me. I hope this busy work has been helpful, in some small way, in achieving the objectives of the Association.

At least once prior to going to Cincinnati, I wished I might remain as Vice President. During the past ten months, I wished several times that I were Vice President.

In all seriousness, however, I can

state that the term as your President has been one of the most challenging periods of my life and, I can add in all sincerity, one of the most enjoyable. It has been enjoyable not only because of the challenge it provided but also because of the excellent cooperation I received from the officers, the Executive Committee members, the committee chairmen, and from all others upon whom I had occasion to call in order that the work might be accomplished in the name of the Association. To each of you I extend my thanks for your cooperation.

To all of you, I extend my sincere appreciation for the privilege of serving as your President.

HENRY M. BURLAGE

ADDRESS OF THE VICE PRESIDENT

I assume the office of President of your Association at a time that is of great significance to pharmaceutical education and to me personally. Pharmaceutical education begins the decade of 1960 by assuming one more step in its "growing-up" process—the five-year program of study. It is also of disturbing significance in that the year 1960 finds pharmacy on the defensive as it has never been before, and this, of course, is unfortunate in light of our new venture.

What the events of 1960 and their consequences will have on our new educational efforts we cannot yet foresee.

My assumption of this office is of great gratification to me because I will complete at the same time my fortieth year of teaching in pharmacy, and I like to feel that this honor was bestowed upon me in recognition of the small part I might have played as a teacher and as an administrator.

In reviewing the course of events and the comments of my predecessors, I find that much has been accomplished

but there is far more to be done; and there is much that we cannot foresee in this uncertain decade of 1960-70, as there was in the decade just concluded. If I were to discuss fully the challenges and positions this Association will be expected to assume, I would find myself infringing upon the time of others. I am, therefore, presenting a few matters which I feel should be commented upon.

Full-time Secretary And Central Office Of The Association

These much needed adjuncts of the Association have been thoroughly discussed by officers, past and present, and others for the last few years, and by the Problem and Plans Committee last year, and by your President; it was voted for reconsideration at our last meeting. A personal observation with respect to these needs. About twenty years ago I served on the Executive Committee, and this past year, as your Vice President, I served once again on the same Committee. I have been amazed at the number of items that constitute the present business of the Executive Committee and their

time-consuming characteristics as compared with those appearing on the agenda of the Executive Committee on which I formerly served.

It is unfair for this Association, for the reasons just stated, to expect persons who are busy with educational and administrative affairs, and the institutions which they serve, to carry the burdens of the Association in times such as these.

Pharmaceutical education needs a full-time, adequately paid representative housed in suitable quarters in our nation's capital in order that congressional and other matters affecting pharmaceutical education can be examined as to content and intent immediately upon their proposal in Congress and by federal agencies so that positive action may be taken for or against the proposal(s) as may be advisable.

Such an officer and office would enable your Association to see to it that the colleges and schools of pharmacy received fair and due consideration with respect to grants to education and research. Such an arrangement would bring about an even greater coordination of recruitment efforts between the Association, the American Pharmaceutical Association, and other national organizations interested in these efforts. In this regard, your Chairman of the Executive Committee is to be commended for his efforts in keeping the Association informed of legislation that has been proposed in the present Congress and which, if for no other reason than by omission, was sadly lacking insofar as the objectives of this Association are concerned. All of us need to take more decisive stands and interest in all legislation as it concerns education as a whole, and a well-informed membership can be made possible by the above proposal, if approved.

Internship And The Five-year Program

A new look should be taken of the internship requirements for the graduates under the five-year program. A realistic requirement seems in order; otherwise, with the additional year of education, our better prospects, in increasing numbers, might consider our sister professions of dentistry and medicine which they believe offer more inducements in line with the increased time of study of our present new requirements.

As chairman of a special committee instructed to make recommendations concerning uniform internship requirements in District No. 6, I solicited information from the state boards of pharmacy and the accredited colleges and schools of pharmacy of our country concerning their plans and opinions with respect to internships under the five-year program. I was surprised to learn that thirty-four of the forty-one state boards replying felt that the internship should remain the same as at present. Forty replied that the internship was a primary concern of the boards, and only one stated that a joint effort on the part of both groups might be of help. A greater surprise came when thirty-four of fifty-seven replies received from the colleges and schools indicated that the requirement should remain as at present. Seventeen suggested a lesser requirement of various amounts before and/or after graduation. Thirty-five were of the opinion that the state boards of pharmacy should have complete control of the internship; fifteen felt it should be on a cooperative basis between both groups.

The study indicated a much wider variation in our internship requirements than was anticipated. It is the opinion of your Vice President that, if uniform reciprocity and standardized efforts of recruitment are to prevail, there should be a standardized realistic internship in

line with the new educational requirements. It is, therefore, recommended that the Association (1) appoint a special committee to consider this matter and to present recommendations to be examined by the Association and forwarded to the NABP, or (2) appoint a special committee to work with a similar committee of the NABP for the same purpose.

Education In Hospital Pharmacy

This topic is also not new since it was discussed by former Vice President Tice five years ago, has received some attention by the Association and the American Society of Hospital Pharmacists, and was included in a panel on the subject on the program of the Association. It is, however, again mentioned because little has been accomplished in solving the problem and in setting patterns for its solution.

Much has been written about the educational requirements for the hospital pharmacist, but little has been done to attract any sizable number of students into this specialized training. This may be, in part, the fault of the colleges, but it becomes extremely important when one observes the rapid rise in the number of small hospitals which, no doubt, will continue. With this rise, there will be an increasing number of them without adequate pharmaceutical services; it also becomes important when one realizes that about 30 per cent of the national dollar volume of drugs and pharmaceuticals is distributed by hospitals. This is expected to rise rapidly to 50 per cent in the near future. It also becomes additionally important to the entire field of pharmacy if drugs and pharmaceuticals are to be distributed in hospitals by unqualified persons, as is the case in many instances today. It would appear that the five-year program offers a real opportunity to offer some hospital pharmacy training to fill this gap of inadequate pharmaceutical

services in the small hospitals. This training might stimulate or interest students to consider graduate studies in this area.

It would appear that the American Society of Hospital Pharmacists has now become an organization of sufficient stature to lay plans of recruitment of more students into this study. I, therefore, recommend that the Committee on Hospital Pharmacy Education of this Association make a special study of education in hospital pharmacy under the five-year program as it relates to the small hospital and make a report with recommendations at the next meeting of the Association.

Recruitment To The Profession

This has also been mentioned by your President.

Beginning in 1960, the Association decided provisionally to join in a unified program of recruitment with the efforts carried on by the American Pharmaceutical Association. It would appear that, if this unified program is to be successful, this Association should devote efforts that were formerly directed to recruitment to the undergraduate program to recruitment to graduate study through its Committee on Recruitment and/or its Committee on Graduate Programs, or that a new standing committee should be appointed for this purpose. I say this because I feel that the pharmacy owners are quite willing to support efforts that will provide them pharmacists, but that they are quite uninterested in efforts to promote graduate study.

It may seem out of place to some of you to recruit students for graduate study, but when one notes the number of teaching vacancies in all areas of instruction in our member colleges, this will become an even more critical situation when enrollments in the colleges increase, and when instruction in all

course offerings is to be advanced under the five-year program.

All too many of our students who can qualify for admission to our graduate schools are pursuing the study of medicine and dentistry. Inducements equal to or greater than that which is offered to graduate students in the other professional areas should be the order of the day.

Teachers' Seminars And The Annual Meeting Of The Association

As a result of action taken by the Association last year, a schedule for the General Teachers' Seminars on Pharmaceutical Education as the first of a three-year interval for these, and as an integral part of the annual meeting of the Association held on a university campus, is being tried for the first time this year.

Since your Vice President has long been an advocate of the scheduling of the annual meetings of the Association at times suitable to the member colleges and not be controlled by the schedules of other organizations, it is hoped that this new scheme will be so successful and advantageous that it may lead to the regular scheduling of the Teachers' Seminar and the annual meeting of the Association on a university campus. It is recommended that the Executive Committee canvass the members concerning the present scheme based upon the results of this year's meetings with the aim of ascertaining the feasibility and desirability of holding the annual meeting of the Association in conjunction with the Teachers' Seminar scheduled for that particular year. There are many reasons favoring this type of combined meeting, and the fine attendance at this one is an indication that it might be held successfully.

The Five-year Program

The reasons for the five-year course have been discussed at great length and

frequency. The proposed curricula should be viewed with a critical eye to ascertain that the objectives of the new program are being met, to see that no teaching area is being neglected in comparison to another, that the courses therein are not old courses with numbers changed for convenient placing in the program—a cursory glance at the catalogs indicates that this is so in a number of instances—and that there is a suitable number of hours of electives for the student to select courses which he feels will help broaden his viewpoint as a practicing pharmacist or help strengthen his background for graduate study.

Enrollments Under The Expected Student Population Increase

There are some dangers associated with this situation.

One danger which might be particularly serious since we are depending upon the junior and senior colleges to furnish us with the students with pre-pharmacy training in this: if the critical shortage of teachers in all institutions of higher learning is not eased and if these educational institutions are once again enamored by the possibilities of high enrollments to justify increased budgets, our member colleges may be getting pre-pharmacy students who may be even more poorly prepared than they were before the new boom in enrollments. This would be not only because of the teacher shortage but also because of inadequate physical facilities.

If this does become the undesirable situation, our member colleges in turn should make use of better means of selection of students on a quality rather than on a quantity basis because they in turn have an ever-present faculty shortage problem, and some have yet a lack of suitable facilities to handle them.

We must keep in mind that a slight shortage of pharmacists in an area is certainly better for the profession than

an over-production of pharmacists with all of its attendant ills.

Emphasis On Public Health

All of us are aware of statements in our codes of ethics pointing out the primary function of the pharmacist in the part he can play in public health matters.

I am sure that all member colleges have a course or spend some time stressing the importance of such an obligation. However, my observation throughout the years is that the emphasis placed on this subject in our curricula has been quite superficial, with the result that many of our pharmacists have little interest in public health matters, and the public health departments at all levels, except in rare instances, are ignorant

of the assistance that the pharmacist can give these departments or boards. I recommend that the Committee on Public Health and Civil Defense make a study of the situation as it exists today and make recommendations as to how the Association and its members may improve matters under our new program and present these to our next meeting.

Conclusion

Concluding my remarks, I am looking forward to the coming year and its challenges, knowing full well that I will have the support of you, my colleagues, the other officers, and the Executive Committee of the Association in meeting these issues as they arise. I appreciate the honor that you have bestowed upon me.

INDIVIDUAL REPORTS

REPORT OF THE SECRETARY-TREASURER

The first major task in the year was the preparation of the minutes of the annual meeting of the Executive Committee and of the post-convention meeting of that body for publication in the *Journal*. The assembly of the attendance record at the annual meeting was another routine duty.

Arrangements were made to hold the interim meeting of the Executive Committee in Chicago in November. The minutes of that meeting have been published.

The salary survey was initiated in October and was completed and distributed in March.

The roster of faculty members in the five professional areas of instruction has been placed in your hands.

In January, the Secretary attended the planning session for the 1960 General Teaching Seminar as the fiscal officer of the planning group. He also participated in the planning of the program under the guidance of Dean Curtis H. Waldon.

Joint Meeting of Officers with the ACPE

The President, Chairman, and Secretary of Association met with the American Council on Pharmaceutical Education for one half day at their annual meeting. Among the topics of joint discussion was the matter of the trimester plan of instruction as announc-

ed by the University of Pittsburgh and the New England College of Pharmacy. Comparison of the two plans brought out the fact that the plan proposed by the University of Pittsburgh permitted voluntary attendance for the usual two semesters per year, as well as for three semesters, by making it possible to enter most classes at the beginning of any trimester. As applied to the pharmacy curriculum at New England College of Pharmacy, the first announcement indicated that the program contemplated would require students to attend for ten semesters with only brief intervals between any two trimester programs in order to complete the curriculum in three and one third calendar years as advertised. The concern expressed by all was for the possible effects of fatigue on the effectiveness of teaching and the receptivity of students under the condition of continuing mental effort. The members of the Council assured your officers that they had received assurance from the New England College of Pharmacy that every effort would be made to maintain the quality of the instruction.

Some discussion was held regarding the eligibility of students who were first registered as students in a college of pharmacy before April, 1960, but whose regular progress was interrupted, to complete the four-years-

after-high school curriculum, should this completion result in graduation after April, 1965. It was the consensus of the meeting that there would probably be no instance of mass violation of the Association's bylaw provisions, and that there should be no penalty for isolated cases of violation due to institutional policy.

Another subject discussed at this meeting was the eligibility of holders of the degree Pharm.D. to be considered as suitably qualified for major positions on a college of pharmacy faculty. The Council's Accreditation Standards make it clear that major positions on faculties should be filled with persons of demonstrated research ability as represented by the degree Ph.D. It was pointed out that the study required to achieve the Pharm.D. degree was not graduate study and that the possessor of this degree did not qualify for appointment to professorial or department head status unless and until he had acquired, additionally, enough technical or professional training or experience to qualify for professorial rank in accordance with Council Standards.

As a related topic to the above, a letter from a holder of the Pharm.D. degree in the Air Force pointed out that holders of this degree were not deemed eligible by the Air Force to receive credit that was being given to holders of degrees in other professions. All present were of the opinion that some action to improve this situation should be taken. At a later meeting, the Council asked one of its members to take the matter up directly with the Air Force and the Department of Defense.

As a representative of the Association, the Secretary attended the meeting of District Three, AACP-NABP in Gatlinburg, Tennessee in October, and of District Six in Oklahoma City, Oklahoma in February. At each of these meetings he presented a summary of the problems facing the Association

as they have been considered by the Executive Committee.

During the fall months, as a member of the Committee on Recruitment Aids, the Secretary attended a meeting at which final approval was given to the fourth edition of *Shall I Study Pharmacy*. This has been published, and some 23,000 copies had been sold as of April 30, 1960. At this time, pursuant to a recommendation made to the Executive Committee by Dean Parks, chairman of the Committee on Recruitment Aids, and approved at the interim meeting, the Secretary-Treasurer transmitted to the American Pharmaceutical Association the remainder of the stock, 29,000 copies of the book, along with the responsibility for the program of film rentals, and the funds remaining in the account of the Committee on Recruitment Aids. The Association's Committee will act in the future as an advisory group transmitting its ideas and suggestions to the Commission on Careers in Pharmacy for implementation.

The President, Chairman, and Secretary attended the meeting of the American Foundation for Pharmaceutical Education, at which the Secretary presented reports on the *Journal* and the Teachers' Seminar.

In late March, the Secretary was included in a meeting with officials of the United States Public Health Service arranged by President Bliven and Chairman Hewitt at which the several programs of aid to research in which colleges of pharmacy may participate were reviewed and discussed. This meeting led directly to the participation of Dr. Ernest M. Allen in our present program.

This report will be my last as Secretary of this Association. It has been an enlightening experience to have served you in this capacity for four years. I shall turn over the responsibilities of the office to my capable successor and shall ask you to afford him the same full cooperation which you have given me.

George L. Webster, Secretary-Treasurer

(Editor's Note: To avoid duplication of printing, the summary report of the treasurer for the fiscal year is presented here in place of the interim report of the treasurer (covering the period August 1, 1959, to June 10, 1960,) which was presented at the Boulder Meeting.)

SUMMARY REPORT OF THE TREASURER

August 1, 1959 to July 31, 1960

Receipts, General Fund

U.S. Government bonds, face value.....	\$10,000.00
Cash on hand, August 1, 1959.....	23,754.61
<i>American Journal of Pharmaceutical Education</i>	
AFPE grant	\$7,000.00
Subscriptions and sales.....	3,551.60
Brochure: <i>Shall I Study Pharmacy</i> , sales.....	10,312.20
Membership dues	15,325.00
Teachers' Seminar	
Sale of <i>Proceedings</i>	\$ 1.25
AFPE grant	8,500.00
Interest on bonds.....	248.40
Exchange and express refund.....	5.30
Roster of teachers, sales.....	3.75
Transfer from Recruitment Aids Fund.....	49.31
FICA withheld and not paid out.....	21.62

Total Receipts, General Fund.....\$78,773.04

Receipts, Recruitment Aids Fund

Cash on hand, August 1, 1959.....	\$24,852.29
Film sales	500.00
Portfolio sales	328.88
Film strip sales	15.00

Total Receipts, Recruitment Aids Fund.....\$25,696.17

Expenditures, General Fund

Office supplies	\$ 368.42
Postage, telephone, express.....	386.75
Secretarial salary, office of secretary.....	3,675.00
Secretarial salary, office of editor.....	1,329.75
Secretarial salary, office of chairman.....	600.00
Employer's share of FICA.....	155.57
<i>American Journal of Pharmaceutical Education</i>	10,830.88
Teachers' Seminars, 1959 and 1960.....	15,963.10
Brochure: <i>Shall I Study Pharmacy</i>	8,157.13
Interim Meeting of Executive Committee.....	1,828.87
Annual Meetings, Executive Committee, 1959 and 1960.....	3,222.19
Expenses, representatives and delegates.....	1,267.63
Dues	2,318.50
Allotment to Districts and others.....	525.00
Committee expenses	2,290.35
Honoraria	2,100.00
Fidelity bonds	150.00
External audit	100.00
Roster of teachers	113.91
Miscellaneous	21.55

Total Expenditures, General Fund.....\$55,404.60

Expenditures, Recruitment Aids Committee Fund

Portfolios—packing and shipping.....	\$ 135.66
Color film rentals.....	11,105.35
Television film rentals.....	526.10
Renovation of films.....	424.86
Refund on film purchase.....	125.00
Meeting expenses	164.11
Display at NSTA meeting.....	321.56

Individual Reports

Packaging and shipping, 32,000 booklets.....	154.06
Postage on 32,000 booklets at \$0.08 each.....	2,560.00
Purchase of 32,000 booklets at \$18 per M—transfer.....	5,760.00
Printing of Graduate Report.....	200.19
Transferred to general account, sales of portfolios.....	49.31
Transferred to A.Ph.A.....	4,169.97

Total Expenditures, Recruitment Aids Fund.....\$25,696.17

Statement of Cash Receipts and Expenditures

	Recruitment Aids Fund	General Fund	Combined Funds
Cash on hand, August 1, 1959.....	\$24,852.29	\$23,754.61	\$48,606.90
Cash receipts	843.88	45,018.43	45,862.31
Totals	\$25,696.17	\$68,773.04	\$94,469.21
Cash expenditures	\$25,696.17	\$55,404.60	\$81,100.77
Balance, July 31, 1960.....	\$ 0.00	\$13,368.44	\$13,368.44

REPORT OF THE CHAIRMAN OF THE EXECUTIVE COMMITTEE

The Minutes of the Executive Committee Meetings held in Cincinnati, August 13, 14 and 19, 1959, and the Interim Meeting held in Chicago, Illinois, on November 9 and 10, 1959, have been distributed to all member colleges and published in the pages of the *Journal*.

Degrees Conferred

	B.S.	Pharm.D.	M.S.	Ph.D.	Honorary	Total
Men	3,184	106	110	78	9	3,487
Women	391	5	8	—	—	404
Total	3,575	111	118	78	9	3,891*

*This figure does not include those degrees granted by either the University of the Philippines or of Puerto Rico. The University of the Philippines granted twenty-three Bachelor of Science degrees to women with none to men. The University of Puerto Rico had not submitted its figures up to the time of this release.

A total of 3,575 Bachelor of Science degrees was awarded in 1958-59. This represents a decrease of seventy-seven Bachelor of Science degrees over those reported in 1957-58. There were no Bachelor of Arts or Bachelor of Pharmacy degrees. There were thirty-three more Doctor of Pharmacy degrees granted, two fewer Master of Science degrees, sixteen more Doctor of Philosophy degrees and five fewer Honorary degrees granted this year than in 1957-58.

Report on Enrollment in Schools and Colleges of Pharmacy, 1959-60

Attached to this report is a detailed copy of the enrollments for 1959-60. The report

Report on Degrees Conferred, 1958-59

The totals for all degrees conferred by all member colleges within the academic year 1958-59 are listed below. The report covers all seventy-six colleges located in the continental United States.

was distributed early last fall to all member colleges, The American Council on Pharmaceutical Education, The National Association of Boards of Pharmacy, The Chain Drug Store Association, the pharmaceutical press and to other interested persons. (*Editor's Note: This report was published in abstract in this journal Volume 24, No. 1, page 73, (1960).*)

There follows a brief summary of some of the high spots included in this report:

1. Total pharmacy students in their last three years of training for 1959-60 of 12,535 represents an increase of 212 students over the comparable group on 1958-59—a gain of 1.6 per cent.

2. Districts 3, 6 and 8 show increased enrollment over last year.
3. There are 256 or 6.5 per cent fewer members in the last year class in 1959-60, one fewer in the second year and 490 more in the present third last year over 1958-59. The special students (fifty in 1958-59 and twenty-nine in 1959-60) are not included in these figures, as they cannot be properly identified by the statistics submitted during 1958-59.
4. In the continental schools there is an increase of sixty-two women students or 4.3 per cent over 1958-59.
5. Of our seventy-six continental schools, nine are in transition with both four- and five-year programs, and one offers both five- and six-year programs. Six are on the five-year program only, and two are on the six-year schedule. Fifty-eight schools are now offering only the four-year program.

The drop in enrollment representing the number of seniors in this present group, as well as the second last year decrease, represents the end in the drop of statistics which will change as evidenced by the third year class, as the "war babies" are now entering our schools of training.

Research Survey

As requested by the Executive Committee, your chairman collected the information relative to the projects under investigation in our member colleges. This material was assembled and distributed to each of the member colleges during the year. There were more than 700 projects listed which served as a surprise to most of us. We have had a number of calls for information, as the schools were keyed by number and not identified outright. It seems to me that while this is somewhat of an added burden on the chairman, the report is well worth the efforts expended. It is my recommendation that this should be continued next year.

Summer Course Survey

Frequently, during the latter part of the second semester particularly, students write in to this office wishing to know what courses are available during the summer and at which institutions. Again, at the request of the Executive Committee, this office surveyed the situation with respect to summer school offerings during the 1960 summer period. This material was assembled and distributed not only to the various member colleges but also to people who had inquired from the outside. This, too, constitutes a service of our Association which I recommend be continued.

Staff Vacancy Survey

Again this year, your chairman contacted each member school and asked for a report on the vacancies that would occur for the academic year 1960-61. This material was sent to each school to be distributed to the graduate students and others who might be interested. I recommend that this service be continued in the best interests of our young teachers and prospective teachers completing their graduate training.

The American Journal of Pharmaceutical Education

As we all well know, this marks the last year of the services of Dr. Melvin Gibson as editor of our *Journal*. He has served pharmacy well in this capacity, and we hope that he can continue to serve us in the future, even though not in such an active capacity as editor. His replacement is Dr. C. Boyd Granberg, who will assume the editorship the first of the year. Dr. Granberg comes to this office with the best wishes of the Executive Committee as well as that of the Association. I am sure we can look forward to a continuation of the fine policies established by the late Dr. R. Lyman and the present editor, M. Gibson. We pledge Dr. Granberg our cooperation in his new position.

Full-time Office of Secretary-Treasurer

Anyone associated with our group knows of the dedication of the officers, particularly that of the Secretary-Treasurer. They give freely of their time often at the expense of their own positions. Each year the work increases to the point that now it has become a matter of practical concern that we look forward to the establishment of a full-time office for our Secretary-Treasurer. This in no way is a reflection upon our many fine past secretary-treasurers, particularly the service most recently rendered by Dr. George L. Webster. I am sure he, as well as Dean Zopf and others, can testify to the great demands upon the time of this officer.

In light of this, the Executive Committee has given serious consideration to this problem. A vote will be called upon at this meeting for the increase of the dues from \$200 to \$500 per year. This increase plus other sources of income would be used to establish a full-time office of Secretary-Treasurer.

Not only is it important that this office be established on the full-time basis, but we should also seriously consider the location of this office. As things are now developing, Washington more and more is becoming the center for educational activities. Many learn-

ed societies and organizations have had offices or are planning to locate their offices in Washington, D.C. If we need any evidence of the value of a full-time person acquainted with Washington activities, we had it in recent bills up before Congress involving professional education which omitted "Pharmacy." I have given this idea of location considerable thought. I always come back to the one conclusion—that Washington is a must for the home of our new secretary. We can get more and more help for education by being on the ground floor and contacting the right people at the right time. The location in Washington, D.C., would not necessarily interfere with interim Executive Committee meetings or any other committee meetings of our Association. I am firmly convinced that the AACP would benefit greatly by association in the A.Ph.A. head-

quarters, the AFPE and the various governmental agencies in Washington, D.C. I trust that this thought will be well received and that the increase in dues will be voted to make an establishment of a permanent office possible.

I wish to express to the Executive Committee my appreciation for their support during the past year. Members of committees and deans have been most faithful in replying to requests for information. I assure you this cooperation is deeply appreciated.

No officer can carry out his responsibilities without the assistance of his fellow officers and members of this Association. It has been a pleasure to have been the Chairman of your Executive Committee. I wish to express my appreciation for this honor and privilege.

H. G. Hewitt, Chairman
Executive Committee

REPORT OF THE AMERICAN COUNCIL ON PHARMACEUTICAL EDUCATION, INC.

The following constitutes the twenty-eighth annual report of the American Council on Pharmaceutical Education, Inc., to its sponsoring organizations, the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the American Association of Colleges of Pharmacy. This report covers the period from the January, 1959, meeting of the Council to the February, 1960, Council meeting and includes a section covering activity of the Council during the spring of 1960.

THE COUNCIL AND BOARD OF DIRECTORS

Membership

The council is composed of ten members who also constitute the Board of Directors. Each of the three sponsoring organizations appoints three representatives to serve as members of the Council, and the American Council on Education appoints one representative to serve as a member. The present membership of the Council is as follows:

Representing the American Pharmaceutical Association	Term Expires
George D. Beal, President, Pittsburgh, Pennsylvania.....	July 1, 1962
Robert P. Fischelis, Washington, D.C.....	July 1, 1964
*William S. Apple, Washington, D.C.....	July 1, 1966
Representing the American Association of Colleges of Pharmacy	
†Tom D. Rowe, Ann Arbor, Michigan.....	July 1, 1960
Joseph B. Burt, Lincoln, Nebraska.....	July 1, 1962
Louis C. Zopf, Iowa City, Iowa.....	July 1, 1964
Representing the National Association of Boards of Pharmacy	
P. H. Costello, Secretary-Treasurer, Chicago, Illinois.....	July 1, 1962
Frank W. Moudry, St. Paul, Minnesota.....	July 1, 1964
‡Robert J. Gillespie, St. Joseph, Michigan.....	July 1, 1966
Representing the American Council on Education	
Herbert E. Longenecker, Chicago, Illinois.....	July 1, 1962
*Succeeded L. L. Riggs, Portland, Oregon, on July 1, 1960.	
†Successor to be named by AACP at annual meeting.	

(Editor's Note: Linwood F. Tice was named by the AACP to succeed Tom D. Rowe, his term to expire July 1, 1966.)

‡Succeeded Robert L. Swain on July 1, 1960.

Executive Officers of the Council

At the annual meeting of the Board of Directors held in Chicago, Illinois, on February 11-12, 1960, George D. Beal, Joseph B. Burt, and P. H. Costello were elected to serve respectively as President, Vice President, and Secretary-Treasurer for the ensuing year. Dr. Melvin W. Green, who has served as Director of Educational Relations since September 1, 1952, continues to serve in that capacity.

Meetings

The Council held two meetings during the period covered by this report. The Annual Meeting, preceded by the regular annual meeting of the Corporation, occurred on February 11-12, 1960. This meeting, which was held at the University Club, Chicago, Illinois, included a joint meeting with representatives of the Executive Committee of the American Association of Colleges of Pharmacy. A meeting of the Council was held, also, at the Palmer House, Chicago, Illinois, June 18-19, 1959. Only the highlights of the meeting held in Chicago, Illinois, June 16, 1960, will be covered at this time.

Examination of Colleges

During 1959, sixteen of the seventy-six accredited colleges were examined for the purpose of continuation of accreditation. The Director of Educational Relations participated in all sixteen surveys. At formal examinations, the Director, at least one member of the state board of pharmacy and one Council member usually participated. Council members participated as follows: Dr. Zopf in two, Dr. Beal in four, Dr. Rowe in six, Dr. Fischelis in two, and Dr. Burt in two. Every college which requested examination during this period was visited.

Of the sixteen colleges examined during 1959, none was examined simultaneously with a full-scale regional association evaluating team; in five cases, a regional association generalist was present during Council examinations. A *List of Accredited Colleges of Pharmacy* was published on July 1, 1959, which bears the names of seventy-six colleges of pharmacy all except one of which are in the continental United States.

In addition to the examinations and visitations, each college filed an annual progress report with the Council. The report is filed each year before November 1 and represents changes during the previous academic year. This report to the sponsoring organizations as to the status of the colleges represents, consequently, the situation during the academic year 1958-59 supplemented by findings

upon examination during the first semester of 1959-60, and, sometimes, correspondence and other material.

The following represents a brief summary of the 1958-59 report of the accredited colleges:

Administration and Organization

During the year, the name of the State College of Washington was changed to Washington State University. Perhaps the most significant organizational change was the merger of Southern College of Pharmacy with Mercer University, the name now being Southern College of Pharmacy, a School of Mercer University. In two of the colleges, new provosts or equivalent officers were appointed to whom the pharmacy dean will report. Ten institutions appointed new presidents during the year.

These colleges appointed new assistant or associate deans during the year and five colleges appointed new deans, viz., University of Tennessee, Creighton University, Auburn University, Texas Southern University, and Oregon State College.

Budget

During the past year, decreases in the budget occurred only in the supplies and equipment categories. Three colleges had decreases in the supplies category and seven in equipment. Supply budgets were increased in thirty-nine colleges, and equipment budgets in thirty-three. Salary increases were the order in every college but four where they remained substantially the same. In most instances salary increases were above 5 per cent, at least on a merit basis if not across the board. Travel budgets were increased in thirty-one colleges, and library budgets in thirty-five; in all others, these two items remained substantially the same.

Physical Plant

New buildings were erected for pharmacy at four institutions during the year. The new plants are at the University of Nebraska, St. John's University, University of Houston, and the University of West Virginia. Each of these buildings is shared with other schools or departments. North Dakota Agricultural College started a new building exclusively for pharmacy during the year, and the University of North Carolina occupied a new building in the fall of 1959. Two institutions occupied new wings on existing buildings during the year, and seven colleges acquired additional space. It is of interest to note that twenty-seven colleges reported that they are planning to build during the next five years.

In four of these cases, the plans are being formulated and commitments are reasonably definite.

Staff

During the year 1958-59, two staff members died, four retired and fifty-five resigned. The resigned staff members, when known and reported, went into the following activities: two became deans, fourteen continued teaching in other colleges of pharmacy, two are teaching in medical schools, one is teaching in high school, five are teaching in non-pharmacy colleges, one is a research worker in a research institute, three entered hospital pharmacy, three entered retail pharmacy, fourteen went into industrial practice, one resigned because of ill health and eight entered graduate school for further study.

Offsetting these faculty losses was the appointment of eighty faculty members, thirty-two of whom are said to be new staff members and forty-eight to be replacements.

Publications by the Staff

In general, the faculties of the colleges were diligent in research during the year, but twelve of the colleges reported no faculty publications during the year. Twenty-seven colleges reported one to four publications, twenty-one reported five to ten publications, nine reported eleven to fifteen publications, one reported sixteen to twenty publications, one reported twenty to twenty-five publications and four colleges accounted for more than twenty-five publications during the year. Twenty-two colleges reported faculty members having written books or laboratory manuals, and thirty-three wrote one or more chapters in books. Nine faculty members were granted United States patents during the year.

Admission and Promotion of Students

During the past year eight colleges required scores on the College Boards for admission for the first time, and eight colleges elevated admission requirements. Eleven colleges changed their standards for promotion and/or tightened their rules relative to probation. Five colleges tightened graduation requirements during the year.

During the past year forty colleges reported accepting a total of 124 students by transfer from other colleges of pharmacy. As part of the reporting procedure each college was required to give the following information regarding each student accepted: name of student, college from which transferred, number of credits accepted, number of credits not accepted, and receipt or non-

receipt of a letter from the dean of the college from which student was transferred.

Library

Library and library services for all colleges of pharmacy are somewhat difficult to evaluate, since some colleges have an independent library, some are combined with medicine and the other health sciences and others are combined with one or more science departments. Fifty-six colleges reported on the number of books added which ranged from twenty-seven to 1500, totalled 13,140 or an average of 234 books per college reporting. Only fifty colleges reported subscribing to new periodicals and the number ranged from one to twenty-five, totalled 421 and averaged 8.4 new periodicals per college reporting. Five libraries increased the number of hours per day that the library was open for service. One pharmacy library combined its holdings with the medical library. One college initiated a course in pharmaceutical literature, and six colleges systematically increased the number of library assignments in their courses.

Seminars and Extension Services

During the year reported, fifty-seven colleges held one or more seminar, institute or similar program for practitioners. Thirty-seven colleges held only one such seminar during the year, nine colleges held two seminars and eleven colleges held three or more. Three colleges put the seminar "on the road" traveling to one or more locations in order to reach more pharmacists. Five colleges reported employing a full-time extension officer to operate the extension program, and six colleges reported part-time persons for such a program. In addition to such in-service programs, newsletters and alumni journals are published, placement services and information services provided.

Miscellaneous

A number of colleges reported special items, several of which are recorded here: ten colleges reported receiving outside research grants ranging from \$10,000 to \$90,000 and totaling \$395,916. Two colleges are operating a state-wide Poison Control Center under the control of the college. Two colleges had staff members away on lectureship and research leaves. One college started an Institute for Pharmacological Research. Two colleges started a hospital pharmacy program. One college inaugurated a visiting lectureship program of magnitude. One college, with aid from the National Science Foundation and the Atomic Energy Commission, started a

Radiological Institute. One college acquired \$30,000 worth of manufacturing equipment, and one erected a new aerosol laboratory. One college instituted a student health service pharmacy.

Special Project: Where Did Our Teachers Come From?

As a special study the Director analyzed the personnel forms from examination questionnaires to determine where our teachers come from. All full-time teachers with a Master's degree or higher and with a rank of instructor or higher were included in the study. In the case of the area of pharmacy administration, where many part-time people are employed, several of these were included in the study.

In each case, the record was examined to determine from what institution the first professional or baccalaureate degree was obtained. It was then determined from what institution the highest degree, i.e., Master's or Ph.D., was obtained. Since the office receives such questionnaire forms from only about fifteen colleges each year, and the faculties are quite mobile, there are errors produced by duplications and omissions. However, memory served to correct some of these errors.

It is recognized that many factors influence a person's decision to continue his education at the graduate level and to go into teaching. It is likely, however, that something in the undergraduate environment or some teacher or administrator in the institution has influenced the undergraduate student either consciously or unconsciously to do this.

It was noted that (1) some colleges having the greatest difficulty in recruiting and holding teachers also have contributed very few or not any to the "stockpile" of teachers. (2) Some colleges with relatively strong graduate programs have not been able to persuade many of their own undergraduates to go into teaching. (3) Some relatively small colleges have contributed a sizeable number to the teaching profession relative to the size of the college and its special nature. (4) In view of the large number of Ph.D.'s needed after the war, there would have been an appreciable deficit of teachers with such training if it had not been for the approximately six colleges turning out the greatest number of Ph.D.'s during recent years.

Special Project: Analysis of Extended Curricula

The Director communicated with each dean during the spring of 1960 asking for the

latest copy of the proposed five-year program. In the vast majority of cases, these represent the officially approved programs. Replies were received from each accredited school except one. The curricula received were examined for general education, the distribution of general education, total required basic science credits, total required professional courses, and total credits for graduation.

Since some of the curricula were not supplied until late in the semester, there were a number of items that needed further checking, which time did not permit to be done. Nevertheless the summary of the results represents a reasonable estimate of the situation from all of these schools.

Table I shows the pattern of these curricula and indicates that the majority were either 1-4 or 2-3 patterns although fifteen schools had 0-5 patterns. Schools that offered any pharmacy courses during the first year after high school graduation, even though such courses might be only orientation courses, were classified 0-5. Actually some of these schools considered themselves to have 1-4 or 2-3 patterns, did not admit to pharmacy formally for one or two years and probably would enable transfer students to fit into either category as the occasion demanded.

Table II shows the credit requirement for graduation and the average number of credits per semester. All schools having a quarter plan of operation had their credits reduced to a semester basis for ease in comparison. It is difficult to get an exact statement relative to total credits for graduation, since some schools count physical education and military science for credit and others do not. As nearly as possible physical education and military sciences were removed from the tabulation for the sake of uniformity. Another factor in the picture making some of the schools appear to be somewhat high in credit requirement is the variability in credit for laboratory hours. Time did not permit the careful evaluation of this factor in all cases and their reductions to a more usual situation. It will be noted from this table that the range is from 147 to 188 credits required for graduation or an average of 164 total credits, which would represent 16.4 credits per semester. A careful study of those schools having an average of seventeen or more might lead to a reduction in the figures due to a different method of calculating laboratory hours.

The number of basic science credits and professional course credits exclusive of electives required for graduation is also given in

Table II. In many cases where the course credit in either of these areas is relatively low, this is compensated for in the elective area in which the school is attempting to offer some degree of specialization.

Table III shows the percentage of the credit hours that are or can be given over to general education. The amount of general education that is assured by spelling out specific courses and by directing a given number of elective hours into the general education area is tabulated under the caption "Assured." It will be noted that on the average this represents 15.1 per cent of the curriculum with one school having as little as 3.6 per cent assured and another school having as much as 27.8 per cent assured. The second tabulation is based on the assumption that all of the courses designated as general education plus all electives in the curricula are to be used as general electives. In this category it will be noted that the range in terms of per cent is from 14.2 to 34.3 and that the average is 21.8 per cent. This figure would seem to represent the maximum amount of general education that could be in the various curricula. This average figure is somewhat over a fifth, indicating that the equivalent of a little more than one of the five years could be assigned to general education. The final tabulation is based on the assumption that all of the electives in the curriculum are general education electives excepting those in the final year. Since many schools definitely direct all electives in the final year to be professional electives, and it is the belief of the director that the majority of schools plan to direct most of these electives

into the professional field, it seemed a reasonable assumption that such a distribution prevails rather generally. It will be noted that on the average 18.1 per cent of the curricula are in this category. Thus if this assumption prevails, slightly less than one-fifth of the total curriculum will be given over to general education, and if students are not wisely counseled concerning their programs it can drop to as little as 15.1 per cent. Thus it can be seen that the success in getting a good distribution of general education into the curriculum will be dependent to a considerable extent on the counseling, and it is the hope of the Council that effective counseling will prevail in this regard.

Ideally it should be possible for a student to have at least one course in the general education area in each of the five years. Table IV indicates that this is possible for thirty of the schools or slightly less than half of the schools. It will be noted that twenty-six of the schools could have general education courses four out of the five years but that two of the schools have the general education concentrated in only two of the years—the first two years. This latter situation is likely to prevail in those institutions wherein the college of pharmacy is remote from the liberal arts college. While this table shows that as many as thirty schools could, theoretically, have general education available each of the five years, because of the tendency to use the fifth year elective program for professional courses, it is doubted whether many of these will achieve this ideal state.

TABLE I
Program Patterns of Extended Programs

Pattern	No. Schools
0-5	15
1-4	31
2-3	27
2-4	2
Total	75

TABLE II
Credits for Graduation

	Range	Average	Average/Sem.
Total Credits for Graduation*.....	147-188	164	16.4*
Total Basic Science Credit.....	40-77	58.2	
Total Professional Credit*.....	48-84	66.7	

*Usually exclusive of physical education and military science; not corrected for uniform laboratory credit.

*17 schools had av. cr./sem. of 17 or over

*Exclusive of electives

TABLE III
Possible Total General Education (%) in 5-Year Programs

	Range %	Average %
Assured	3.6-27.8	15.1
All electives, general.....	14.2-34.3	21.8
All electives but final, general.....	10.5-28.7	18.1

TABLE IV
Theoretical Distribution of General Education

Distribution	No. Schools
Possible each of 5 years.....	30
Possible each of 4 years.....	26
Possible each of 3 years.....	15
Possible each of 2 years.....	2

Activities of the Director

During the past calendar year, the Director took part in the examination of sixteen colleges of pharmacy for continuation of accreditation. Two additional colleges were visited informally at their request for counseling.

Two papers were published during the year—"Research in the Colleges of Pharmacy" and "Pharmacy Looks at Accreditation." Reprints of both papers were distributed widely, and the latter has been requested by two institutions to place in the hands of their Board of Trustees.

The Director addressed the Pharmacognosy Teachers' Seminar at the University of Illinois and the LaSalle County Pharmaceutical Society at Ottawa, Illinois. During the year he attended the Conventions of the American Association of Colleges of Pharmacy, the American Chemical Society, the American Pharmaceutical Association, and the Association for the Advancement of Science. In addition, the Director attended a conference on accrediting called by the National Commission on Accrediting, the fall meeting of the American Council on Education, and the Industry-Education Forum sponsored by the National Pharmaceutical Council.

During the year the Director continued to serve on the Revision Committee of the USP and served as chairman of the nominating committee for the oncoming USP Decennial Convention. He continued to serve as Chairman of the Committee on Pharmaceutical and Biochemical Education of the Pan-American Pharmaceutical and Biochemical Federation.

Council Activity from February to July 1, 1960

During the period February-July 1960, certain activities of the Council are herewith

reported although they will be reviewed in greater detail next year. During this period, five colleges were examined for continuation of accreditation. In two cases the Council participated in examination of the institution as a whole by a regional accrediting agency.

The Council issued a statement of explanation concerning the standard for the faculty, 4c, relative to the place of persons holding the Doctor of Pharmacy degree in teaching positions. The statement, which was sent to all pharmacy deans, is the following:

Academic Qualifications of Faculty Members

The Council wishes to call your attention to Standard 4c, page 17, of the *Accreditation Manual*, Sixth Edition, with respect to qualifications of faculty:

The dean and heads of departments shall have completed at least three years of graduate study in their respective professional areas; other teachers of professorial rank, at least two years; those of the rank of instructor, at least one year. Technical or professional training or experience substantially equivalent to graduate study may serve in lieu of one or more years of such study to qualify members of the faculty. Examinations of colleges have shown, however, that strong faculties have invariably included a number of teachers qualified by virtue of substantial graduate study in addition to technical or professional training represented by the bachelor's degree.

In the interpretation of this standard, the Council recognizes that there may be certain course areas in which the holders of the Doctor of Pharmacy degree, based on four years of professional education after two or more years of pre-professional education, may render an effective service as members of a faculty. However, it should be pointed out

that this is not a graduate degree. On the basis of this standard and recognized academic practice, the possessor of the professional degree is not qualified for academic rank or for service as the head of a department unless and until the possessor of this degree has acquired sufficient technical or professional training or experience to qualify for such a rank under this Council's standards. As a general principle, persons holding the Doctor of Pharmacy degree as their highest degree are not regarded by the Council as eligible for teaching graduate courses or directing research leading to a graduate degree.

Financial Statement

A financial statement for the last calendar (fiscal) year, January 1, 1959, to December 31, 1959, follows:

January 1, 1959—cash balance on hand.....\$ 3,341.83

Receipts:

Sponsors' contributions	\$ 3,000.00	
American Foundation for Pharmaceutical Education.....	30,000.00	33,000.00
		<hr/> \$36,341.83

Disbursements:

Rent and light	\$ 2,317.70	
Salaries	20,434.92	
Council meetings	2,439.37	
Inspection expense	4,222.90	
Printing	620.46	
Office supplies and equipment.....	352.82	
Postage, telephone, telegraph, express.....	728.07	
Miscellaneous, bonds, dues, etc.....	804.01	
Retirements	2,640.00	34,560.25

Cash balance on hand, December 31, 1959.....\$ 1,781.58

P. H. Costello, Secretary

REPORT OF THE EDITOR OF THE AMERICAN JOURNAL OF PHARMACEUTICAL EDUCATION

The 1959 *Journal* was the largest volume in its twenty-three-year history. It extended to more than 650 pages and encompassed a wide variety of topics including feature sections on continuing education, liberal education, history, and graduate education, as well as many fine articles on diverse topics of specific interest. I think it is one of the best volumes I have edited, and I think its value will be surpassed only by the current twenty-fourth volume. The editorial in the Summer, 1959 issue on the necessity of manufacturers hiring detail men who are pharmacists precipitated more comment than any other editorial to date. As indicated in my 1959 report, this editorial was sent to the presidents and sales managers of fifty leading manu-

facturing companies. A special reprint order was prepared, on request, for a state pharmaceutical association. Eli Lilly and Company requested reprints for distribution to seventy key sales persons. And I was particularly pleased with Dean Tice's very complimentary comments and amplification of the theme in an editorial in his *American Journal of Pharmacy*.

In response to the mailing of the editorial to manufacturers, I received about thirty replies. The reply from Mr. Hardt, president of Armour Pharmaceutical Company, was quoted in the fall issue editorial. Most of the replies were more than perfunctory acknowledgments. Most letters contained pertinent comments and thoughtful replies, some

running to several pages in length. I should like to quote the final paragraph from the letter of Mr. John Toohy, Vice President, E. R. Squibb and Sons:

There is no question that you are discussing a very important problem, and I am very much pleased to have you study it and analyze it as you have done in your article. As the Executive Committee of the American Association of Colleges of Pharmacy continues its review of this important area, we would like to be posted so that we may benefit by sound counsel in selecting, training, and using the best available men for detailing the professions.

I think this illustrates what the other letters demonstrated, namely that manufacturers are willing and eager to listen to pharmaceutical education when it has something to say of mutual benefit. I think there has been too little such mutual give and take between manufacturers and educators. We have mutual problems which should be mutually discussed for the benefit of the profession. I think industry and education should join hands in the common effort. As it is, I am afraid industry sees the hand of education primarily in terms of the upturned palm. It is quite apparent from the inroads made on the profession by outside groups, including the Kefauver Committee, that pharmacy must take steps to organize its disorganized melange of organizations, or pharmacy surely will suffer lasting defeat by its exposed flanks being whittled away by a diversity of private interest groups which will divide and conquer segments of the profession in their total disregard for the common good.

I have recommended to the Executive Committee that this association send a representative to the Pharmaceutical Manufacturers Association conventions. The time is long overdue for our official recognition and possible participation in the activities of the PMA. Such a representative should be so chosen as to represent *all* of pharmaceutical education, and he should be a person who is able to speak authoritatively for it. The permanent Secretary of the Association, when he becomes a reality, would seem to me to be the logical person to be that representative.

The 1960 volume of the *Journal* will be as large as that of 1959, if not larger. I hope it also will be better. The winter and spring issues are already in your hands. I think the feature section on college buildings, which was a repetition of a type of feature section first published in 1956, should become a

regular feature of the *Journal*. We have made great strides in facilities for pharmaceutical education, and much more needs to be done. From the response to the 1956 section, it was obvious that such articles can do much good in spurring the efforts and providing background material for those schools planning or in need of new buildings. Also in the spring issue is the excellent article, "A Bit of Ribbon," by Dr. R. A. Lyman, Jr., which justifiably may become a classic in pharmaceutical journalism. It should be required reading for every student of pharmacy.

The Summer, 1960 issue will reach you late this year. Obviously I cannot be editing a journal and spending two weeks at these meetings. But I think it will be an issue worth waiting for. It is composed largely of a twelve-article feature section which presents ideas of what changes should be made in existing courses in curricula to meet the needs of the five- and six-year programs. Also, the section presents for the first time detailed outlines for and discussions of courses in anatomy and pathology for pharmacy students. The section contains an article on the philosophy of science for the science curricula. Two articles on honors programs for superior students present specific programs both for the whole university and also specifically for schools of pharmacy. Two carefully prepared articles on hospital pharmacy education and other worthwhile articles will make this, I think, one of the best issues of the *Journal*.

During the Teachers' Seminar in the days to come this week, I shall collect the papers presented, and as many of these as space will permit will constitute the Fall, 1960 issue. As you know, the fall issues are usually made up of Teachers' Conference papers. Because the section activities of the Teachers' Conference will be limited this year, the Executive Committee has directed me to publish the Teachers' Seminar presentations in the Fall, 1960 issue, which will bring these important papers to you in published form in record time. The proceedings of this AACP convention will constitute the Winter, 1961 issue and will be the publishing responsibility of my successor.

Although the paid subscription list is almost two and a half times as large as it was when I became editor, it is still too small. This year I have made my final efforts to encourage subscriptions. Every 1959 subscriber who did not subscribe in 1960 was sent a reminder letter in January. This was subsequent to the routine reminder sent in December. This spring every person who is

engaged full- or part-time in pharmaceutical education and who is not a subscriber, including faculty members of Canadian affiliate schools, was sent a rather lengthy letter of invitation to subscribe, which described the contents of the current volume. More than one thousand such letters were mailed with return cards and envelopes. The response was something less than overwhelming!

Possibly one of the most discouraging aspects of editing your journal is the dishearteningly low proportion of pharmaceutical educators who subscribe to it. There is no question in my mind that the *Journal* performs a valuable and necessary function for pharmaceutical education. But the dearth of subscribers leads me to believe that too many pharmaceutical educators become quite provincial in their reading, and apparently they consider reading about their most important responsibility, teaching, to be of little importance. At least the *Journal* seems to come out a poor loser in its bid for their thoughtful attention. Some remarks which I read coming from supposedly well-informed educators lead me to believe that they hardly should criticize the retail pharmacist for not knowing what is being taught today in schools of pharmacy, for they themselves do not know what is being taught and how it is being taught in their own institutions! The totality of the problems and practices of pharmaceutical education must be faced by more than deans and directors. I think it is the responsibility of each of us to understand the thoughts and ideas of pharmaceutical educators in all areas of pharmaceutical education. And I think this can be done only by reading the *Journal*. I don't think "I use the library copy" is a very satisfactory rebuttal. I never have been asked to replace a library copy because it has been worn out. I think our goal must be to get the *Journal* on more desks where it will be read.

The *Journal* continues to gain favorable comment from people outside pharmacy. I have initiated correspondence with Mr. Seymour I. Taine, Chief, Index Division, National Library of Science, and he has assured me that in a relatively short time our journal will be indexed in *Index Medicus*. I hope such recognition as this will further enhance the value of our journal to people outside pharmacy who may not now be familiar with it.

Just before leaving Pullman I received a letter from Dr. John E. Bowers, editor-in-chief, *The Journal of Medical Education*. It begins as follows:

I have just been looking over the Spring, 1960 copy of the *American Journal of Pharmaceutical Education*. Since I am Editor of *The Journal of Medical Education*, I am interested in your publication in which I found many fine articles.

Dr. Bowers went on in the letter to ask questions about policies and procedures we use for our journal. And he ends his letter with:

I would appreciate answers to these questions and any other policy statements that you may have on your journal.

I think such recognition can bring only credit to pharmaceutical education as well as to the profession of pharmacy.

At this time I should like to thank the many people in pharmacy who kindly have written to me to tell me of their appreciation of my efforts in behalf of the *Journal*. These letters and your comments to me personally have been very gratifying, and I did not know that during the last five years I had made so many friends. Of course I have also collected a group of enemies anyone could be proud of.

In a few months I shall be the only living ex-editor of your journal. In the future I may continue to be quite vocal about it. I should like to start now to help many of you understand the problems the new editor will face. I say these things not for sympathy, for I want none; not for cheers, for you have given me these; and not to try to impress you, for I could not if I wanted to. But I do want to say that my successor will give to national pharmaceutical education more of his time, more of his efforts, and more of himself than any other person who is a pharmaceutical educator. His personal life will be marshalled, his spare time eliminated, his patience will be tried, and his family will be neglected. How long he will stand for this is hard to say. I think the Association must soon face the fact that editing its journal is a big job—a very big job. There must be more office assistance for the editor to obviate the necessity of so much of the editor's time being taken up with office managerial duties. The correspondence alone runs to between two and three thousand letters a year. Letters come from all over the world in almost every language. I have been grateful many times that the foreign language department was down only one flight of stairs. Books, book reviews, communications with

publishers, problems with authors, mailing list changes, rejection of manuscripts, and dozens of problems which are routine could be handled by an office assistant. *The Journal of Medical Education* has a full-time staff of three in addition to the editor. The Executive Committee has chosen an excellent new editor. How long the Association will be able to hold this able person is, indeed, worthy of thought. If your journal is to reflect the best in pharmaceutical education, we must recognize that we all must help to make it so by providing the editor with capable and adequate assistance.

In January, Dr. C. Boyd Granberg of Drake University will accept what I think will be one of the greatest challenges of his life—editor of your journal. He is a person of courage, independence, ideas, and common sense. These I think are salient characteristics of a good editor. In Granberg these characteristics are linked with an efficiency I have seldom seen equaled or surpassed.

The Association is, indeed, fortunate to have him as its editor-elect. I hope he will have your unstinting support; I know he will have mine.

In closing I should like to express my appreciation to Dr. Deno, Dean Hewitt, Dean Zopf, and Dean Webster, persons with whom I have been most closely associated as editor of the *Journal*. My association with these people has been a most gratifying experience. I have received their complete cooperation, but most of all I have had their confidence, and knowing this I knew I dared not fail. To the many of you who have responded to my requests for news, for book reviews, and for articles, please accept my thanks. It is you who have made the *Journal* what it is; I have but supplied the questions, the commas, the covers, and some comments. I appreciate and I am grateful for the honor of having been for five years the guiding instrument of your official voice.

Melvin R. Gibson, Editor

STANDING COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON CONSTITUTION AND BYLAWS

Several matters were referred to the Committee on Constitution and Bylaws during the last Association year for possible action. Each of these will be discussed briefly, as will the disposition made of each by the Committee.

Proposed Change in the Number of Elected Members to the Executive Committee and in their Term of Office

This proposal originated in 1958 and was based on a suggestion by a member of the then Executive Committee. The proposal would increase the term of office of each elected member of the Executive Committee from two to three years and would reduce by one the number of elected members of the Executive Committee; namely, from four to three. While this proposal was endorsed by the Executive Committee in 1958, it was not presented to the membership for vote at the 1959 meeting because of unsolved technical difficulties which would be involved were it to be implemented. The Committee on Constitution and Bylaws which functioned last year was of the opinion that it should not submit this proposal to the membership for vote without some clear-cut solution for the difficulties which would arise were it to be put into effect. The Committee on Constitution and Bylaws again this year was charged with the task of putting this proposal into proper wording for vote by the membership at this meeting. The chairman of the Committee, however, took the position that the membership could not with propriety vote on this as a proposal coming from the Executive Committee unless the Executive Committee as now constituted first endorsed it. In this decision, the chairman was supported by the Chairman of our Executive Committee, Dean Hewitt. Dean Hewitt then proceeded to canvass the present members of the Executive Committee for an expression of opinion on this change in the membership of the Executive Committee, as outlined. The Executive Committee did not endorse it. Under these circumstances, the Committee on Con-

stitution and Bylaws will not at this time submit any proposal for changing the total membership of the Executive Committee, since it represents neither the wishes of the present Executive Committee nor the expressed wish of the Association itself.

Constitutional Provision Should a Member of the Executive Committee be Elected an Officer of the Association

A second matter referred to the Committee on Constitution and Bylaws was for some suitable provision which would anticipate the possibility of the Executive Committee's being reduced in its total membership for one year should a member of the Executive Committee hold membership on two bases, as listed in Article VIII of the Constitution. Such a contingency, for example, would arise should one already a member of the Executive Committee be elected an officer of the Association. It was the feeling of the Committee on Constitution and Bylaws that no change in the Constitution should be proposed to the membership in order to accommodate what is likely to be a rather rare eventuality. There seems to be no record that this has happened before, and there seems little prospect that it will occur often. A reduction in the number of members of the Executive Committee by one for a single year should not seriously affect the performance of its duties and functions and, since the Committee on Constitution and Bylaws does not and cannot have any information concerning the outcome of the elections to be held July 4, it decided against formulating an amendment to the Constitution to provide for any such contingency.

Increase in Annual Dues

The third matter presented to the Committee is a proposal based upon action taken by the Executive Committee in November 1959. This proposal would raise the annual dues for membership from the present figure of \$200.00 to \$500.00. This requires a change in Article II of the Bylaws, which in its new form would appear as follows:

Article II. Fees and Dues. The annual dues for active or associate membership in the Association shall be \$500.00. A college applying for active or associate membership in the Association shall pay an application fee of \$25.00, which shall accompany the application. The annual dues for affiliate membership in the Association shall be \$50.00. No college shall be considered

in good standing, and an active member college shall not be entitled to vote, unless all dues are paid, and a college which is in arrears for three years shall be dropped from membership.

This proposal was sent out to all members by the Chairman of the Executive Committee on May 26, 1960. It is to be voted upon in executive session at this meeting.

Linwood F. Tice, Chairman

REPORT OF THE COMMITTEE ON CURRICULUM

The Committee on Curriculum (1959-60) undertook the study of four major problems dealing with curriculum and confronting the Association during the 1959-60 year. These are: (1) the interpretation and evaluation of certain portions of the 1959 AACP Committee on Curriculum Questionnaire on Existing and Proposed Five-Year Curricula of Member Colleges; (2) a review of existing six-year curricula in pharmacy with special reference to courses and the degree (Phar.D.) granted; (3) a review of Resolution No. 19 from the AACP Executive Committee and pertaining to a course in public health; (4) the acceleration of the five-year program to reduce the time in calendar years for completing the degree requirements.

In addition to the above, the Committee studied the question submitted by one member college, "Is the course content of general college physics as taught by university service departments desirable for undergraduate pharmacy students?"

The Interpretation and Evaluation of Certain Portions of the 1959 AACP Committee on Curriculum Questionnaire on Existing and Proposed Five-year Curricula of Member Colleges

The results of the comprehensive questionnaire reported by the 1959 AACP Committee on Curriculum have been condensed by Chairman Adams of that Committee and are available with the original report from the AACP Secretary-Treasurer's office. These results represent the planning for the five-year curriculum by fifty-six member colleges.

In brief, the following interpretations can be made of the results of this questionnaire: 1. The average number of additional credits (units) required for the five-year course represents a full academic year of two semesters of about fifteen plus credits (units) each (total for two semesters approximately thirty-one credits). Accordingly an average total of

165 credits given during ten semesters or five years is required for the B.S. degree in pharmacy. The total credit load appears normal when compared proportionately with the total credits for the four-year curriculum, and it may be used as a yardstick for comparative purposes.

2. It is encouraging to note that colleges are planning to offer required and/or elective courses in general education, basic sciences and mathematics in each year of the five-year program, and the Committee endorses this arrangement.

However, the report indicates that in comparison with the four-year course, member colleges have, as an average, increased general education offerings by only 5 per cent in the five-year program. Further, there has been a marked increase in the number of professional elective courses which will be available despite the fact that there is a decrease of 4 per cent in required professional courses.

It would seem that some colleges with heavy professional curricula under the four-year course may not have provided enough time under the five-year plan for general education courses. This would in such cases be a disturbing factor, particularly if such colleges plan to offer a large number of professional elective courses at the expense of time for general education electives. In other words, the Adams report implies that some member colleges have provided more time for professional courses via the elective route, thus limiting too much the provision for courses in the humanities, arts and social sciences. It is suggested that a careful study of this situation be made.

The 1959 report shows that professional electives occur principally in the fourth and fifth years as would be expected. Since it also states that "elective courses in general education, basic sciences and mathematics

will be offered in each year of the five year sequence," it would seem desirable in colleges showing only a 5 per cent (or less) increase in general education that students be encouraged to select courses in general education during the fourth and/or fifth years so that the original intent of the five-year program in this respect can be realized.

The Committee is of the opinion also that the average number of *elective* academic units (semester credits) of sixteen as stated in the 1959 report is a bare minimum and rather low. It implies that there are colleges which have less time for electives. Such a situation would reduce the flexibility desired in the extended curriculum.

It is noted in the 1959 report that "one-half of the member colleges will offer courses in their undergraduate sequence which are acceptable for graduate credit. Of the above number, approximately one-half of the courses will be recognized for both undergraduate and graduate credit." This fact reflects an upgrading in the type of some courses to be offered by these colleges. It also indicates that provision is being made by these colleges to motivate qualified students at an early date for advanced degree programs.

Since the above arrangement may in certain universities create a need for modifying an existing maximum number of undergraduate credits allowed for graduate credit, it would be helpful for all member colleges to know on what basis graduate schools have accepted additional credit. It would also be of interest to know whether or not any colleges are granting dual credit (undergraduate and graduate) for courses of this type—and, of course, how much.

It is evident from the 1959 report that a large number (one-half) of the member colleges are providing specializations within the pharmacy curriculum. This is to be expected and if elective courses can be arranged in proper sequence undergraduates can profit from the five-year program by devoting some time to specific areas of pharmacy for specialization. However, the Committee is mindful of the fact that time allotted in most cases for specialization during the five-year program cannot be regarded as sufficient for denoting the elective specialization a *major*.

Since sixteen out of forty-nine colleges (about 33 per cent) reported that the five-year program "does not provide adequate time to achieve the stated objectives of the *Pharmaceutical Survey*," it is probable that these colleges will give careful study to the

six-year program, or perhaps each should take another look at its five-year plan.

The 1960 Committee endorses the proposal that the Bachelor's degree be awarded for the five-year curriculum. It is noted in the 1959 report that of fifty-one colleges reporting on the degree offered, all have decided in favor of a Bachelor's degree. An overwhelming majority (forty-three) will give the Bachelor of Science degree in pharmacy.

Recommendation: Although the Adams (1959) survey sheds some light on the general status of five-year programs that are proposed now by member colleges, it is recommended that a follow-up survey be made in another few years, particularly after most colleges have had an opportunity to work out various problems in connection with this extended program. It is, however, evident that the general findings of the report are quite similar to those reported by the 1959 Committee on Educational and Membership Standards (*Am. J. Pharm. Ed.*, 24, 28 (1960)).

A Review of Six-year Curricula in Pharmacy With Special Reference to Courses and the Degree Granted

The 1960 Committee undertook a study of the six-year program leading to the Ph.D. degree and now required by two California schools of pharmacy, in order to compare the courses offered by these schools with usual programs leading to the Master of Science degree, including the M.S. degree in hospital pharmacy. In conducting this study several sample programs were collected from approximately fifteen member colleges whose graduate programs are considered outstanding in three or more major pharmaceutical areas. The place of the Ph.D. degree with respect to the Ph.D. degree was also noted.

The following factors were given particular attention: (1) requirements for the Ph.D. and graduate degrees; (2) qualifications of the recipient; (3) course credits in advanced subjects; and (4) the comparative academic level of the Ph.D. degree with those of the B.S. (five-year program), M.S. and similar degrees.

1. Requirements for the Ph.D. degree: The two schools offering the Ph.D. degree require from 129 to 132 total credits (units) for the four professional years and together from sixty to sixty-eight credits (units) for the two pre-pharmacy (pre-professional) years, or a grand total of approximately 193 course credits (units). This represents about twenty-eight more credits than the average total credit requirement of 165 for most mem-

ber colleges on the five-year programs. (See Adams' report of 1959.)

It is interesting to note that the schools now offering the Phar.D. degree provide in one case six to eight general education electives in the two pre-pharmacy years and only three in the second case. One school provides a total of sixteen electives (all from advanced pharmacy courses) in the four years of professional studies, the second requires seventeen electives (eight units in the humanities and nine units of advanced pharmacy courses). This means that the total electives for the Phar.D. degree in six-year programs of these two schools range from about twenty-three in one (of which only from six to eight are in general education) and twenty in the second (of which only eleven are from the area of general education). Neither school provides electives in all semesters of the program.

The conclusion is, therefore, made that the present requirements of the two schools granting the Phar.D. degree are lacking in general education courses in proportion to the total number of units (193) as compared with the number of general education courses (required and elective) in the five-year program (165 units). It is quite evident that the curricula leading to the Phar.D. degree are much heavier than the five-year programs in the direction of professional courses and those basic sciences which support these. This increase in professional courses is indeed even greater in proportion when compared with similar distributions in the five-year programs.

Recommendation: The Committee recommends that colleges which plan six-year curricula not decrease the amount of time for general education free electives or required work in this area in proportion to that now prescribed as a minimum for the five-year course. Further, it believes it desirable that more elective time in general education be provided students and that when possible this provision not be restricted to the pre-pharmacy years. It is recognized that the elective hours of the sixth or last year of the professional program should be predominantly in the professional work.

In general, the professional courses leading to the Phar.D. degree appear to be about the same as the B.S. degree with the exception that there are a few more of them and in certain areas the credit has been increased. One program includes three courses in medical science areas, viz., medical orientation, parasitology, and pathology, for a total of nine semester credits.

2. Qualifications of the Phar.D. graduate: The qualifications of the Phar.D. graduate in all phases of pharmaceutical practice, including advanced study and research, should be improved by extended education. The present Phar.D. degree courses in the California schools differ somewhat, for example in the emphasis given to the prescription courses. One school allows more time for study in other pharmaceutical areas. In general, however, courses of both schools provide more time for a number of elective specialties within the profession. It is questionable whether each school has provided enough opportunity for elective courses in areas of general education prior to and including the sixth year.

3. Course credits in advanced subjects: A study was made of the five-year (B.S. in Pharm.) curriculums of forty-three colleges of pharmacy and of fifty-four Master of Science programs completed by students at fifteen colleges of pharmacy. The study was undertaken in order to obtain some estimate of the current relative requirements for the Bachelor of Science in Pharmacy, Master of Science, and Doctor of Pharmacy degrees.

For the B.S. in Pharm. degree, 164 semester credits are usually required; for the M.S. degree, 200 credits (thirty-six credits beyond the B.S. in Pharm.); for the Phar.D. degree, 194 credits (thirty credits beyond the B.S. in Pharm.). The number of credits, however, does not tell the whole story. The academic level of the required courses is also a very important consideration. Nine of the B.S. in Pharmacy curriculums included courses that could be taken by graduate as well as advanced undergraduate students. In these curriculums, almost one-fifth of the required courses were given at the higher academic level. Although the Phar.D. curriculums are longer than the B.S. curriculums, the proportion of courses offered at the advanced undergraduate-graduate level was appreciably lower. On the other hand, 46 per cent of the courses in the M.S. programs were at the advanced undergraduate-graduate level, and 54 per cent were courses exclusively for graduate students. Since forty-one of the M.S. programs included research credits (not included in the above figures), it is safe to assume that the average M.S. degree program includes an original investigation and preparation of a thesis.

4. Comparative academic level of Phar.D. degree: Admittedly the pre-study was not comprehensive or extensive. Possibly other factors should also be considered. Yet it appears that the Phar.D. degree is somewhat

above the B.S. but considerably below the M.S. degree in academic position. Pharmaceutical education is placed in serious jeopardy, therefore, whenever its graduates are misrepresented by high-sounding degrees when applying for certain academic and many industrial positions which require advanced degrees. The Committee realizes that this is not the intention of pharmaceutical educators and urges that the Phar.D. recipient be fully and properly identified to prospective employers, and that every effort be made to upgrade postgraduate professional training, i.e., training beyond the B.S. level so that the highest professional degree for pharmacy (Phar.D.) requires a training that is in every way commensurate with all of its connotations. It should not be construed in any way to take the place of such advanced academic or non-professional degrees as the M.S. or Ph.D.

The Doctor of Pharmacy (Phar.D.) degree is a professional degree. Consequently, in accordance with other similar professional degrees (M.D., D.D.S., etc.), before commencing with the Phar.D. professional program, pre-requisites should include basic courses in general education and science usually typical for the professions.

The Phar.D. program as a professional one prepares students primarily for the professional practice of pharmacy—retail and/or hospital pharmacy. It should, therefore, as a pharmacy doctoral curriculum include a clinical phase in the sixth year, e.g. as a supervised clinical experience requirement (externship). It should be used as a degree program only for those graduates who go into the professional practice of pharmacy. The sixth year leading to the Phar.D. degree should be postgraduate in nature. Courses given ancillary to the supervised clinical practice program of this year and the qualifications of students admitted to this year should, therefore, be at a level commensurate with postgraduate training. The course and clinical practice program should be planned at a standard acceptable for an advanced degree of a professional nature with at least one-half time given to the clinical practice program.

The Committee is of the opinion that the degree program leading to the B.S. degree in pharmacy should be continued for students intending to follow pharmacy careers other than retail or hospital pharmacy and that those who wish to pursue graduate studies leading to the M.S. and/or Ph.D. degrees register for these programs following the

fifth year after receiving the B.S. in pharmacy or a similar degree.

Recommendation: The Committee recommends: (1) that plans for the six-year course include provision for all students to receive a B.S. degree in pharmacy or a similar degree at the completion of the fifth year; (2) that following the fifth year for those students who seek careers in retail or hospital pharmacy and who qualify for further study toward this phase of the profession, the sixth year be devoted to supervised clinical practice as an integral part of the curriculum along with ancillary courses of postgraduate caliber; (3) that students graduating at the end of the sixth year under this plan receive the Phar.D. degree; (4) that all other pharmacy students with the B.S. degree may elect postgraduate studies in the sixth year, such as those leading to the M.S., M.B.A., Ph.D. or others of their choice. These would include manufacturing or industrial pharmacy, research and teaching. Some work during the fifth year could, of course, be applicable toward advanced academic degree requirements if approved by graduate schools or divisions.

Essentially if adopted the above arrangement would identify the Doctor of Pharmacy degree with graduates who are qualified specifically for retail or hospital pharmacy practice.

A Review of Resolution No. 19 From the 1959 Meeting

The Committee was requested by the Executive Committee of the AACP to follow through on Resolution No. 19 from the 1959 meeting. This resulted from Dean Sprowl's address "Training Pharmacists for Future Roles" and specifically stated that a syllabus be prepared "for a course in public health and preventive medicine designed in accordance with the definition of the course in public health as presented by Blaich and Webster in the *Pharmaceutical Curriculum*, and further designed to acquaint the student in pharmacy with his potential public health role and to properly orient him for the ultimate of service in this role."

The Committee concurs with the general principles set forth in this address by Dean Sprowl. It is especially urgent that pharmacy graduates take up whatever thread is offered in the college curriculum for a more effective integration of pharmaceutical knowledge with the public health problems of the local community, state, nation, and world around us.

If there is a significant problem here in how effectively the pharmacist is participating

in the public health it would seem that curriculums of the colleges are not entirely at fault. The Adams' report (1959) shows that 84 per cent of the colleges which reported had instituted a course in public health for the five-year program. The great majority listed this as a required course. Several colleges also reported courses such as immunology, health, sanitation, etc. Semester credits for courses in public health range from two to six, and the work is offered by either pharmacy faculty or degree specialists in public health.

A study was made of the contents of several courses in public health as offered by five of the colleges. Although these differ somewhat, the major objectives seem to be quite similar—to prepare students with the knowledge of community problems in public health, the subjects of disease control, epidemiology, sanitation and the integration of pharmaceutical work in public health campaigns. A typical outline from a syllabus is as follows:

Public Health and Sanitation*

(Credit two semester hours)

A. Objectives

1. Public health—organizational development, agencies, records, problems
2. Environmental sanitation
3. Water supplies and sanitary control
4. Sewage—treatment, disposal, urban, rural, etc.
5. Refuse disposal
6. Mills and dairy products
7. Sanitation of other foods
8. Protozoa, metazoa, insect and rodent control
9. Infection, immunity and allergy
10. Communicable diseases—spread by mouth, nasal passages, fecal discharges
11. Nutrition and deficiency diseases
12. Contagious diseases spread by genital contact and other means
13. Immunization procedures
14. Industrial hygiene and sanitation
15. Poison control centers
16. Other public health problems—maternal and child health, infant health, pre-school child, heart disease, cancer, mental hygiene, diabetes, crippled and physically handicapped, dental hygiene, housing, senior citizens, etc.

*The Committee acknowledges the assistance of the staff in pharmacy and bacteriology of the Philadelphia College of Pharmacy and Science for the use of this simplified outline.

17. Biometry

18. School health service—relationships of physician to school health service

19. Health education—role of pharmacist and bacteriologist in health education, etc.

The modern trends in public health education demand that pharmacists be more familiar with community and national problems. This is a changing field as far as emphasis on one or more aspects is concerned. Conditions vary from community to community and state to state. In general the subjects of the above outline are germane to most areas and should be considered in a course in public health. The Committee believes that faculties of member colleges might benefit from communications with recognized authorities in this field when planning a syllabus in public health. Since there is general agreement with the proposals stated in Blauch and Webster, *The Pharmaceutical Curriculum*, pages 166-167, among public health specialists on the general nature of the course, the Committee feels that each college should work out its syllabus in accordance with the best methods and facilities it can muster. But it should draw upon the advice of the specialist in public health so that an up-to-date course can be integrated with the problems of a typical community.

The actual role of the graduate as a practicing pharmacist participating in public health matters is motivated by his enthusiasm and interest. Perhaps this enthusiasm can be stimulated by means of seminars, clinics, refresher courses, or other forms of postgraduate education. The fact remains that most member colleges do provide the basis for this interest. It is unfortunate that so few pharmacists take the time to concern themselves with the practical aspects of the public health problem after having been exposed to them in an academic way.

The Acceleration of Professional Programs To Reduce The Time in Calendar Years for Completing the Five-year Program

The trend among some universities and colleges throughout the country (at present a minority) to conduct classes on a twelve-month basis has advantages and disadvantages. It can accelerate the time by which students complete degree requirements. It enables institutions of higher learning to make better use of physical plants and employ more faculty on a twelve-month basis. In some cases faculty are at work teaching during the summer months instead of being obliged to seek employment in other areas in order to make a living.

There are at least two methods by which some institutions have arranged the twelve-month program. One plan is based on students taking the usual thirty-two week (two-semester program) and then electing a third semester during one or more summers. This creates the need for two types of curriculum-planning simultaneously or at least the provision for irregular student schedules. A second plan provides a required trimester (trimester) eleven-month year schedule for all students so that the five-year academic program is reduced to one of about forty months. The first semester starts about the first of September and the third semester ends in early August.

Recommendation: The Committee has carefully weighed the advantages and disadvantages of various types of trimester programs. It is unanimous in its opinion that any move to accelerate the five-year program such as by an eleven- or twelve-month required trimester plan is not in the best interests of pharmaceutical education despite the fact that it keeps both faculty and physical plant occupied for teaching for a calendar year. It recommends that such plans not be adopted by member colleges.

The complete functions of a college of pharmacy cannot, we believe, be achieved in accelerated programs. Faculties, staff and facilities should be committed, with a proper balance, to each of the following categories of responsibilities for which each college is charged:

1. Student instruction in classroom and laboratory and the provision during later years of the five-year program for some practical pharmaceutical experience as afforded during summer periods.
2. Faculty research and scholarly pursuits leading to professional growth for the individual and the institution.
3. The service of the faculty, staff and student body to the profession, industry and public.

Moreover, accelerated programs, such as a required trimester plan, defeat one of the major purposes for which the five-year program is intended, namely to ease the student credit load and faculty teaching load so typically excessive for each semester under many four-year programs. The trimester program does not reduce student course loads. It adds unnecessarily to faculty teaching loads unless most colleges can almost double present numbers of teaching faculty. Without substantial increases in faculty, existing staff may be significantly prevented from activities of research, service and professional growth

so important to effective teaching and the advancement of pharmaceutical science.

The trimester program virtually abolishes supervised student summer externship or internship programs, thus preventing some practical experience generally thought desirable during the last two years of the five-year program. It curtails the opportunity for students in financial need to use summer periods for employment. It sets the stage for inferior instruction and student learning which so frequently accompanies programs of this type, because deficiencies cannot be corrected as they develop and before they adversely affect the subsequent work of the student. Experience gained during World War II when acceleration was tried by some member colleges for a short time bears out many of the above disadvantages of such plans.

Recommendation: The Committee, therefore, recommends that the administration of member colleges study carefully all of the factors involved in a required trimester program before embarking on it and that the Association go on record as disapproving any plan which tends to accelerate the normal time of five calendar years by which regular students can complete the five-year program.

Is Course Content of General College Physics As Taught by Service Departments Desirable for Undergraduate Pharmacy Students?

This question was raised by one member college whose dean is of the opinion "that the practicing retail pharmacist does not need the same type of physics course, for example, as would a pre-med or pre-dental student." This dean is of the opinion "that all pharmacy students should and must take physics" but is concerned "that the practicing pharmacists of the future should have to take either engineering or nuclear physics."

The Committee reviewed this problem and is unanimous in its opinion that the two-semester standard college courses in physics usually taught by a physics department in a university college of arts and sciences is most desirable for the undergraduate pharmacy student. This is a beginning course in physics and intended primarily to cover the fundamental principles of mechanics, heat, sound, electricity, magnetism, and optics. It is a course generally required for pre-medical and pre-dental students in addition to others not majoring in physics or engineering. Such a course is not generally considered nuclear physics, although some basic introduction may be given to this important aspect of modern physics.

The Committee is of the opinion that a watered-down course in general physics designed for a specific phase of pharmacy would not be desirable. On the other hand, it recognizes that there may be problems in the manner in which the general physics course is presented to pharmacy students on some university campuses. In such cases

there may be a poor quality of instruction by faculty or insufficient background on the part of students. Inferior instruction should be dealt with as an administrative problem and insufficient student preparation as an admission problem.

Heber W. Youngken, Jr., Chairman

REPORT OF THE COMMITTEE ON EDUCATIONAL AND MEMBERSHIP STANDARDS

In its 1959 report, the Committee on Educational and Membership Standards recommended that its duties be redefined so as not to infringe upon the functions of other committees and agencies and that its title be changed to one more in keeping with the function assigned to it.

It was recommended that the Committee concern itself with "matters of educational policies as they affect the administration of colleges of Pharmacy; the instructional activities, including curricular matters, within these institutions; and the relationships of these colleges with each other and with non-pharmaceutical institutions." It was suggested that the title of the Committee be changed to Committee on Educational Policies in keeping with the statement of proposed function.

The 1959 report proposed that the Committee undertake the development of a guide that will offer suggestions for upgrading educational policies, a guide that must not be regarded as mandatory in any sense.

The Committee has been guided by these recommendations in selecting for study the subject of administrative attitude toward teaching load in colleges of pharmacy.

In the field of general education much work has been done in the area of faculty work load. An excellent review and bibliography was prepared by Stickler (1) for the Invitational Conference on the Measurement of Faculty Workload held at Purdue University in 1959. He included in the term faculty load "the sum total of all activities which take the time of a college or university teacher." These are such varied activities as "preparation for teaching, actual classroom instruction, making and scoring examinations, reading and grading papers, research and/or creative work, directing graduate theses and dissertations, professional services, guidance and counseling activities, and any or all or any combination of a variety of other pro-

fessional activities in which a college faculty member normally engages." Emphasizing the difficulty of the problem, Stickler states, "It is debatable whether equitable and precise measurement of faculty load is even possible. Some educators are convinced that it cannot be measured satisfactorily . . ."

Commenting on the Conference, President Carter Davidson (2) of Union College states in part, "The general discussion seemed to center upon the Caplow proposal (to pay teachers by the hour according to rank for actual classroom teaching and separately for certain other responsibilities)* vs. the 40-50 hour work week vs. the 12-15 normal classroom teaching load as the best device for bringing out the finest results. It was generally agreed that each institution would have to adopt its own best formula defining a reasonable teaching load and indicating the part which all the other auxiliary activities should play in the calculation."

Inquiry into professional education reveals that faculty loads are not standardized in medicine, dentistry, and nursing. We are informed that comprehensive studies are being conducted presently on medical education and dental education. One aspect of these studies is the teaching load of faculty members.

The Association of American Law Schools includes in its Standards a provision concerning maximum teaching load. It is provided that a faculty member should not teach more than an average of eight hours per week. This "limitation is interpreted as permitting a member school to require over eight hours per week of class instruction where a law teacher is handling two sections of a given course. It is customary to give one-half credit for a second section so far as the teaching load of the instructor is concerned." (3)

The American Association of Collegiate Schools of Business in its standards for mem-

*Added by the Committee

bership requires that "members of the instructional staff should not teach undergraduate courses in excess of twelve credit hours per week. In judging the instructional load consideration should be given to the total academic responsibilities borne by each member of the teaching staff."

Several members of the Association have made available to the Committee reports on studies made on faculty activities within their respective institutions and faculty work load forms. These are recorded here for the benefit of those who would wish to pursue this subject in greater detail.

"Studies in Higher Education," *The University Faculty Load Study*, The University of Minnesota Press, 1940-42.
The 1950-51 Survey of Faculty Activities at the University of Minnesota, Bureau of Institutional Research, University of Minnesota.
The Work Load Report of the University of Georgia.
The Faculty Service Report of the University of Florida.

Bone (4) has reported on faculty loads in colleges of pharmacy. He did not attempt to translate the useful information which he gathered into a statement on recommended teaching load for colleges of pharmacy.

Jenkins (5) has reported on a "Teaching Load Index" which is represented as a simple and reasonably satisfactory basis for comparing teaching loads. The index is computed from total class hours, a preparation factor, a grading factor and a supervision factor.

The Committee felt that the study in detail of the faculty load in colleges of pharmacy is a major undertaking which could not be completed in one year. It was believed that as a preliminary to possible further study, it would be desirable to explore the attitude of administrators of colleges of pharmacy toward faculty work load.

Results of the Survey

1. Does the institution have an official policy with respect to teaching loads?
 Yes 25 No 39
2. If the answer to Question 1 is 'no,' is there a policy which, although unofficial, is one which guides faculty assignment?
 Yes 30 No 6
3. Is teaching load calculated to give a numerical figure?
 Yes 41 No 22

4. If the answer to Question 3 is 'yes,' what figure would represent normal full teaching load?

Fifty-one replies of a quantitative nature were received. The figures varied from three to twenty contact hours (including laboratory) and from seven to fifteen semester or credit hours. Appearing three or more times were the following:

12	semester hours	12
15	contact hours (max.)	9
12	contact hours	8
12-15	semester hours	5
10	semester hours	3

5. Question 5 concerned the factors included in the calculation of the teaching load and their relative weights. Many of the replies to this question were not of a quantitative nature.

With the lecture hour represented by one credit, laboratory hours were evaluated on a one for one basis by three schools, on a two for one basis by ten schools, on a three for one basis by five schools, and on a three for two basis by three schools.

Other factors mentioned were:

additional sections
 administrative duties
 committee assignments
 conference
 counseling
 different courses
 direction of graduate students
 extension programs
 extra-curricular activities
 laboratory preparation
 lecture preparation
 outside lectures
 moderatorships
 new teacher
 public relations assignments
 research
 seminars
 service
 size of class
 state activities
 upper or lower division
 classification of course

In only very few instances were these given quantitative expression; therefore, the extent of their consideration is not known in most cases.

6. What is the total number of students registered in the last three years of the program as of October 1, 1959?

	Schools		Schools
50-75	10	226-250	1
76-100	9	251-275	6
101-125	5	276-300	4
126-150	5	301-325	1
151-175	7	326-350	2
176-200	4	351-375	1
201-225	4	376-400	2

7. What is the average number of students per lecture section?

	Schools		Schools
10-19	2	70-79	2
20-29	21	80-89	3
30-39	10	90-99	1
40-49	11	100-109	2
50-59	3	120	1
60-69	7	149	1

There are wide variations in the enrollments in our colleges of pharmacy and in the sizes of lecture sections. It appears that the latter in particular should be taken into account in any statement of teaching load.

8. Do you believe that teaching loads in colleges of pharmacy can be standardized?

Yes 12 No 46
Questionable 1
On a recommended basis 1

9. Do you believe that it is desirable to standardize teaching loads in colleges of pharmacy?

Yes 19 No 39
Questionable 1
Yes, if not mandatory 1

10. Regardless of practice in your particular institution, what would you recommend, as most closely approaching the ideal, as a qualitative and quantitative expression of teaching load in colleges of pharmacy?

Considerable variation exists in the answers to this question. The figures ranged from six to twenty clock or contact hours and from eight to fifteen semester or credit hours. No specific figure or range was mentioned as many as five times. Most of the figures submitted fell in the range of twelve semester hours or less and fifteen contact hours or less. Many interesting qualitative expressions were received. Some of these are reproduced here.

"The faculty and staff of a college of pharmacy should be large enough to handle the institution's threefold responsibilities: I. instruction, II. research and other scholarly activities, and III. service. To this must be added the staff functions (administration)

required for efficient servicing for the line functions, I, II, and III."

"Ideally, assuming enrollments are high, a teacher should teach one course each semester."

"I have long ceased to worry about the number of hours a man teaches. I equate his value on his overall contribution to the College through research, teaching and service."

"I have always felt that the load should be based primarily on the number of 'preparations.' I would, within some limits, count each section of the same subject as a 'preparation' as well as different subjects."

"There is no ideal. Teachers, like all other persons, refuse to be standardized."

"The answer to question 10 depends upon the objectives of the college or university. In those institutions where emphasis is placed on research publications, it is conceivable that the faculty person would have few, if any, hours available for teaching. In other institutions where self-study and inter- and intra-professional committees are active, the faculty person again would have restricted academic classroom hours. It is difficult to correlate such activities into comparative studies."

"That amount of classroom teaching which will enable the faculty to keep the undergraduate courses well supervised and well instructed, leaving sufficient blocks of time available to the faculty member so that he may either (1) carry out personal research leading to publications, (2) direct the research of graduate students and do some graduate teaching."

"A load . . . that would permit the individual to become an effective faculty member and yet provide him with time to develop in the areas of greatest interest."

"The teaching load should be based upon contact hours of instruction with proper weighting for the level of instruction, avoiding diversification of teaching responsibility as much as possible."

Admittedly we are dealing with a complex problem. Interest appears to be centered less in standardization for the sake of standardization than in the avoidance of excessive faculty loads which bring about a deterioration in the quality of teaching. Also, concern is pri-

marily with undergraduate teaching. The basis upon which research, direction of graduate students and the many other activities in which faculty engages is equated, if at all, to "teaching" is a matter to be determined by each institution.

The Committee is not prepared to suggest a standard for teaching load as a result of this study. Further study of this question, if it be approved by the Association, should yield, first, a formula by means of which teaching loads can be compared. This formula should include, in addition to lecture and laboratory hours, such factors as size of class, level of instruction, number of preparations, and presence or absence of assistance for grading, supervision, etc.

Following the development of a satisfactory formula, recommendations can be made concerning maximum teaching load.

The Committee acknowledges with thanks the suggestions and advice contributed by many members of the Association and in

particular by President Bliven and Dr. Melvin W. Grøen.

Albert J. Sica, Chairman

References:

- (1) Stickler, W. Hugh, *Faculty Load in Colleges and Universities: Review and Bibliography*. Prepared for the Invitational Conference on the Measurement of Faculty Workload, Purdue University, Lafayette, Indiana, 1959.
- (2) Davidson, Carter, *Assoc. of Urban Universities Newsletter*, 12, (2), (1960).
- (3) Armstrong, Frank R., president, Association of American Law Schools. Personal communication.
- (4) Bone, Jack N., *Proceedings of the 16th Annual Meeting District No. 7, American Association of Colleges of Pharmacy and National Association of Boards of Pharmacy*, 1956.
- (5) Jenkins, Glenn L., *Am. J. Pharm. Ed.*, 10, 235(1946).

REPORT OF THE JOINT COMMITTEE ON PHARMACY COLLEGE LIBRARIES

A major portion of the work of the Joint Committee on Pharmacy College Libraries depends on mutual stimulation of ideas and on basic planning that can be best accomplished through periodic personal contact among its members. With the aid of an unsolicited grant of funds from the Smith, Kline and French Foundation, five members of the committee were able to meet in Philadelphia on April 20-21, 1960, where they were guests of Smith, Kline and French Laboratories. The committee wishes to express its very deep appreciation to the Smith, Kline and French organization and to the Association for their generosity, without which it would have been impossible to meet this year.

Present at the meeting were Dr. George E. Osborne, chairman, College of Pharmacy, University of Rhode Island, representing the American Association of Colleges of Pharmacy; Mrs. Martha J. K. Zachert, librarian, Mercer University; and Miss Marjorie Wankar, librarian, Creighton University College of Pharmacy, representing the Medical Library Association; Mr. James L. Olsen, Jr., Smith, Kline and French Laboratories, and Mrs. Mildred P. Clark, Winthrop Laboratories, representing the Special Libraries Association. The second AACP member, Dean David W. O'Day, University of Wyoming, was unable to attend.

Since the Committee has seen a number of its projects come to fruition and others fall by the wayside for a variety of reasons, this meeting was in the nature of a review of past activities and a reorganization of effort for a fresh start on new ones. Several ideas and projects were discussed in some detail, but no report on these can as yet be made.

Some years ago an extremely useful survey was conducted by a committee of the Pharmacy Group of MLA of the books and periodicals in the pharmaceutical sciences held essential for pharmacy college libraries. This survey, which reflected the thoughts of the members of the faculties of the member colleges of the Association, resulted in a checklist published five years ago under the authorship of Mrs. Elizabeth Johnson in the *American Journal of Pharmaceutical Education* (19, 480(1955)). The Joint Committee purchased and sent out reprints to the member colleges, and when the original supply was exhausted, was able to provide an additional number of reprints for distribution on request. The Committee strongly feels that this list should be revised promptly because of the expansion in the periodical literature and new texts in pharmacy and in the pharmacy-related sciences during the past six years. At its meeting, arrangements were made for Mrs. Martha Jane K. Zachert, retiring member of the Committee, to take

on the responsibility of working up a revision of the list of references with the prospect that this project will be made a continuing one so that revisions of the list may be made and published more regularly and more expeditiously.

The Committee notes with continued interest the efforts being made by a commission of the International Pharmaceutical Federation to establish a fortnightly bulletin of abstracts of pharmaceutical literature. In preparation for the bulletin, Miss Winifred Sewell, of the Pharmaceutical Section, SLA, compiled a *World List of Pharmacy Periodicals* as a basis for selecting journals for abstracting in the proposed bulletin. Considerable interest has been expressed in publication of the world list itself by interested persons from several pharmacy colleges. The list would be complementary to *Drug Information Sources*, a *World List*, also a compilation of the Pharmaceutical Section, SLA, copies of which were furnished by the Joint Committee to member college libraries. Since the pressure of Miss Sewell's duties as SLA president for 1960-61 will preclude her devoting time to preparing the list for publication, the SLA Section is presently seeking an able co-author for final checking and preparation of the manuscript for prompt publication.*

It appears that no library school will offer a course in pharmaceutical librarianship this summer, although it had been thought that one would be given by the Graduate Library School of the University of Chicago. Dean Asheim indicated that he is studying an approach to the work through the medium of an intensive workshop and has mentioned the possibility of an offering during the summer of 1961, if there is sufficient demand. Dean Jack Dalton of the School of Library Service of Columbia University reports that its course in pharmaceutical librarianship, given in the summers of 1957 by Mrs. Irene M. Strieby and of 1959 by Miss Winifred Sewell, both former members of this committee, is now considered a permanent part of the curriculum, to be repeated at intervals when the need occurs. The earliest possible date for the next course is summer, 1961; it may possibly be included in the spring program of 1962, or later. The Committee is glad to note this happy outcome of one of its first and most desired projects.

*It is anticipated that, on publication, the Committee will secure copies of the list and make them available to the libraries of the member colleges.

A major objective of the Committee has been to bring into closer relationship all possible activities of the participating organizations and the AACP Committee representatives. This spring's meeting has brought forth a suggestion of one means of establishing better liaison between the groups: copies of the annual and other reports of each group are to be exchanged; five copies of each issue are to be sent to each chairman by the corresponding members for distribution and best possible use. Even though many librarians are members of both SLA and MLA and thus receive reports of both groups, the formal exchange of reports is felt to be a useful routine. Both MLA and SLA have held their annual conventions for 1960, and it has been reported that both groups have approved this suggestion of the Committee.

Another proposal made by the Committee that may lead to closer cooperation between the pharmacy groups of MLA and SLA is the holding of joint sectional meetings, for example, in the New York and Chicago areas. To the best knowledge of the Committee, there are no regular sectional meetings of the Pharmaceutical Section of SLA, or of the Pharmacy Group of MLA, despite the fact that occasional very successful meetings have been held; for example, a year ago the New York-Philadelphia pharmaceutical librarians of SLA met at Warner-Lambert Research Institute, Morris Plains, New Jersey. It is the committee's feeling that occasional gatherings of this type will serve to create added solidarity, particularly if MLA members were also among the participants and if interested pharmacy college personnel were invited.

With this report the chairman concludes five years of service to the Association in this particular capacity. During this period he has had splendid cooperation from the participating organizations and from the representatives they have nominated to serve with him on the Joint Committee on Pharmacy College Libraries. He wishes to take this opportunity to acknowledge with gratitude their efforts, the support of the Association, and the contributions of secretarial help from both the University of Utah and the University of Rhode Island. The history of this Committee goes back to 1933; the accomplishments reported here should not be thought of in terms of the personnel of the 1959-1960 Committee; rather, they constitute a link in a twenty-seven-year-old chain to what it is hoped will be larger goals for the future.

George E. Osborne, Chairman

**REPORT OF THE
COMMITTEE ON
RELATIONSHIPS OF BOARDS AND COLLEGES**

This report covers a two-year period, 1958-1959 and 1959-1960, based on academic years. An attempt was made to pool the activities of the boards and colleges for the two-year period, although some information was not obtainable. All districts have had two meetings since the last report. All districts held panels each year, and all districts had special guests. Papers presented were widely variable, ranging from history and ethics to technical subjects. Topics most frequently presented involved internships, externships, uniformity of practical experience, board examinations, law enforcement, recruitment and admissions of pharmacy students, public relations, over-the-counter sales and restrictive sales.

Next year Districts VII and VIII will meet jointly.

In District III Puerto Rico College and Board were absent both years. Florida A. & M. College of Pharmacy (1958-1959) and the Mississippi Board (1959-1960) were not present. Loyola and Xavier Universities were absent from District VI (1958-1959) because of inclement weather. The Alaska Board was absent from District VIII both years.

The following resolutions were passed during 1958-1959 and 1959-1960 and are presented to the AACP and the NABP for further consideration (local resolutions are not included):

(District 1)

1958-1959

None.

1959-1960

I. *Resolved*, that publishers of "Blue Book" and "Red Book" again be urged and requested to discontinue the practice of quoting prescription prices on drug items or to publish that the minimum prices quoted do not apply and should not be used as the prices charged by retail druggists.

II. *Resolved*, that District No. 1 urge the Medical Department of the U. S. Navy to discontinue its "Pharmacy Technician" course of thirty-eight weeks and to use present qualified registered pharmacists by offering more commissions in the Medical Service Corps, and the commissioned registered pharmacists in service now be used for professional pharmaceutical duties. (Decided to refer later to A.Ph.A. rather than to the Navy.)

(District 2)

1958-1959

I. *Resolved*, that those Canadian colleges becoming affiliate members of the AACP and in geographic proximity to District No. 2 be invited to join this District as members.

II. *Resolved*, that the Secretary-Treasurer of District 2 or his appointee be directed to draft preliminary uniform requirements for consideration by all boards, and further that following consideration by the boards a revised edition of uniform requirements be presented to the next annual meeting of District 2 for adoption and implementation.

1959-1960

I. *Whereas*, the report on manpower and registration procedures in District 2 indicates a lack of uniformity in manpower statistics, and,

Whereas, it is desirable that uniform statistics be obtained by the various states, with the ultimate objective of an accurate manpower record for the profession and a record providing pertinent information about our manpower.

Be it resolved, that a Committee on Manpower be appointed by the chairman of the boards and colleges and charged with the responsibility of preparing a suggested questionnaire which will enable the various boards of pharmacy to obtain uniform information on manpower in accordance with the above objective and the objectives of the National Association of Boards of Pharmacy.

II. *Whereas*, it is the consensus of the boards and colleges of District 2 that uniform practical experience requirements are necessary and desirable, now, therefore,

Be it resolved, (1) the objectives of such requirements be directed toward those aspects of the practice of pharmacy which are concerned with the protection of public health; (2) credit for practical experience as a requirement for licensure be granted only for training received in an approved pharmacy; (3) credit for practical experience as a requirement for licensure be granted only for training received under the direction and supervision of an approved preceptor; (4) the practical experience requirements include the provision that training be extended over a period of six months subsequent to graduation from an accredited college of pharmacy; and,

Be it further resolved, (1) a committee consisting of the president and secretary of each board of pharmacy be appointed, and the chairman for the boards of pharmacy be appointed to serve as chairman of the committee; (2) the committee so designated meet at a time and place to be established by the chairman for the purpose of formulating the details of uniform practical experience requirements for licensure to include the principles outlined in the text of this resolution; (3) the committee so designated prepare a report of their deliberations to be presented for adoption at the 1960 meeting of District No. 2.

III. Recommended the conference request the NABP explore the practicability of seeking professional assistance in the preparation of examination questions to be furnished as a guide to member boards, and that such examination questions not be in specific sciences as are now given in theoretical subjects; and that a copy of this resolution be forwarded to the Executive Committee of the NABP.

(District 3)

1958-1959

None.

1959-1960

I. *Resolved*, that a committee be appointed to study the reclassification of legend drugs in a manner so as to restore the time-honored professional prerogatives of the pharmacist in exercising his professional judgment in refilling prescriptions for certain types of medicinal agents.

(District 4)

1958-1959

None.

1959-1960

I. *Resolved*, that this district urge creation of such directive agency (for centralized, aggressive planning and direction for continued public relations programs on careers in pharmacy) at the national level, preferably within the A.Ph.A., so organized as to enlist cooperation from the AACCP, other national pharmaceutical organizations, and members of the pharmaceutical industry.

II. *Resolved*, the members of District 4 be urged to work individually and through their state associations to bring to the attention of all pharmacists their obligation to aid in bringing into the profession youth of good character and intellectual capacity, and that the respective state boards and colleges combine in an effort to equip prospective speakers on pharmacy careers with the proper infor-

mation and techniques to be used in making their presentations.

III. *Resolved*, District 4 express its sympathetic attitudes toward the proper ambitions of the AACCP, and urge all college and board members to exert every effort toward the attainment of this goal.

(District 5)

1959-1960

I. *Resolved*, that the 5th District place itself on record opposing the elimination of the use of Latin and the customary symbols of the United States fluid and apothecary weight system, as being unnecessary and unwarranted, provided all prescriptions are read and interpreted by registered pharmacists.

II. *Resolved*, the publishers of "Red Book" and "Blue Book" be requested to append an explanatory note or statement attesting to the fact that the legend price quoted is not the prescription price, and,

Be it further resolved, that a copy of this resolution be furnished to the publishers of the "Red Book" and "Blue Book."

1959-1960

None.

(District 6)

1958-1959

I. *Resolved*, we recommend the appointment of a commission in each state to study the needs and to formulate a proposed plan for an improved internship program; also, the boards of pharmacy be requested to take the initiative in the responsibility in this appointment, and,

Be it further resolved, that representatives from the board of pharmacy, the state pharmaceutical association, and the college or colleges of pharmacy in the state be represented.

II. Recommended the publication of a state or national professional code of ethics in the state pharmacy journals annually.

III. Recommended practicing pharmacists be urged to take a more direct and active part in student recruitment.

1959-1960

I. *Resolved*, the 6th District go on record opposing mail order prescription practices as being dangerous to the health of the public.

II. Recommended pharmacists take more direct and active interest in recruitment of students, more interest in colleges and continued interest in the ethics and practices of pharmacy.

III. Recommended the terms "pharmacist" and "pharmacy" be used instead of "druggist"

and "drug store"; also, "licensure and fitness examinations" be used in place of "theoretical and practical pharmacy examinations."

(District 7)

1958-1959

I. *Resolved*, that District No. 7 go on record as being in favor of continuing the present practice of holding the national meeting of the AACP and the NABP in conjunction with the annual meeting of the A.Ph.A. each year, and the executive committee of the AACP be urged to consider scheduling the beginning of the AACP meeting one day earlier than is presently the custom.

II. Recommended the necessary steps be taken through the American Association of Colleges of Pharmacy that the schools of pharmacy at the University of British Columbia and at the University of Alberta be invited to become members or associate members of District No. 7.

1959-1960

I. *Resolved*, the board of pharmacy in those states requiring a Bachelor of Science degree be urged to accept the Bachelor of Pharmacy degree as meeting their requirements, and their laws be changed to read, "a graduate of an accredited (approved) school or college of pharmacy."

II. Recommended that because of increasing numbers of accidental poisonings from products intended for household use, the officers of the AACP and the NABP be urged to

support the American Medical Association's legislature to require manufacturers of products for home use to list ingredients on the labels of their products.

(District 8)

1958-1959

I. *Resolved*, that practical experience requirements for licensure include a uniform period of internship in lieu of the present practical experience requirements.

II. Requested the permission of the NABP to include Hawaii in District 8 and, on approval, invite Hawaii to membership.

III. Recommended that the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy take whatever steps are available to them to curb this practice (of various advertising claims for over-the-counter pharmaceuticals), which is inimical to public health and welfare.

IV. Recommended the states institute meetings between the members of the state board of pharmacy and the faculty of the schools of pharmacy which will complement the meetings of District 8.

1959-1960

I. *Resolved*, that District No. 8 accept invitation of District No. 7 to meet jointly next year.

II. Recommended that schools and colleges of District No. 8 consider offering more suitable subjects pertaining to public health.

L. L. Eisenbrandt, Chairman

Meetings		No. of Annual Meeting	Time	City	Hotel or University	All Boards & Colleges Present	Total Present
District							
I			Oct. 6-7, 1958	Boston, Mass.	Kenmore	Yes	81
			Oct. 5-6, 1959	Portland, Me.	Lafayette	Yes	62
			Oct. 13-14, 1960	Hartford, Conn.			
II			Oct. 26-28, 1958	Niagara Falls, Ontario	Sheraton-Brock	Yes	57
		29	Oct. 22-24, 1959	Pittsburgh, Pa.	Roosevelt		
		30	Oct. 6-8, 1960	Wilmington, Del.	DuPont		
III			Aug. 24-26, 1958	Biloxi, Miss.	Edgewater Gulf	No	55
			Oct. 5-6, 1959	Gatlinburg, Tenn.	Riverside	No	71
			Oct. 1960	Columbia, S.C.	Wade Hampton		
IV			May 3-5, 1959	Lexington, Ky.	Phoenix	Yes	56
			Feb. 7-9, 1960	Ann Arbor, Mich.	U. of Michigan Union	Yes	51
			Apr. 30-May 2, 1961	Lafayette, Ind.	Purdue University		
V			Oct. 19-20, 1958	Minneapolis, Minn.	Nicollet	Yes	66
		21	Oct. 18-19, 1959	Iowa City, Iowa	University Union	Yes	103
		22	Oct. 2-3, 1960	Sioux Falls, S.D.			
VI			Feb. 9-10, 1959	Kansas City, Mo.	President	No	55
		33	Feb. 15-16, 1960	Oklahoma City, Okla.	Biltmore	Yes	69
		34	Mar. 13-14, 1961	Houston, Texas	Shamrock Hilton		
VII			Nov. 2-4, 1958	Pullman, Wash.	State College	No	43
		18	Oct. 5-6, 1959	Laramie, Wyo.	U. of Wyoming	No	65
		19	Nov. 6-9, 1960	Las Vegas, Nev.	Tropicana		
VIII			Oct. 12-14, 1958	Las Vegas, Nev.	Tropicana	Yes	55
		17	Oct. 11-13, 1959	Boulder, Colo.	Harvest House and University Memorial Center	No	56
		18					
			Nov. 6-9, 1960	Las Vegas, Nev.	Tropicana		
		19					

Standing Committee Reports

Officers				
District	Academic Year	College Chairman	Board Chairman	Secretary-Treasurer
I	1958-1959	Pierre F. Smith Rhode Island	Ralph E. Gentile Connecticut	William O. Foye, Sec. Howard C. Newton, Treas. Massachusetts
	1959-1960	Nicholas W. Fenney Connecticut	John E. Cusick Massachusetts	William O. Foye, Sec. Howard C. Newton, Treas. Massachusetts
	1960-1961	Howard Reed Massachusetts	Ira William Rhode Island	William O. Foye, Sec. Howard C. Newton, Treas. Massachusetts
II	1958-1959	John G. Adams Pennsylvania	Maurice Goldberg New Jersey	Harold C. Kinner Washington, D.C.
	1959-1960	Roy A. Bowers New Jersey	Merle D. Pritchard New York	Charles W. Bliven Washington, D.C.
	1960-1961	Albert J. Sica New York	Francis S. Balassone Maryland	Noel E. Foss Maryland
III	1958-1959	W. Lewis Nobles Mississippi	Chester Jones Mississippi	Kenneth L. Waters Georgia
	1959-1960	William A. Prout South Carolina	Thomas Lemond Tennessee	W. Lewis Nobles Mississippi
	1960-1961	Robert Morrison South Carolina	H. M. Kaiser South Carolina	W. Lewis Nobles Mississippi
IV	1958-1959	Earl P. Slone Kentucky	George W. Grider Kentucky	Edward J. Rowe Indiana
	1959-1960	Tom D. Rowe Michigan	O. K. Grettenberger Michigan	Edward J. Rowe Indiana
	1960-1961	Glen Sperandio Indiana	E. F. Kaminski Indiana	Edward J. Rowe Indiana
V	1958-1959	George P. Hager Minnesota	Robert F. Berg Minnesota	Winthrop E. Lange South Dakota
	1959-1960	Wendle L. Kerr Iowa	Oscar E. Johnson Iowa	Henry P. Bauman Iowa
	1960-1961	H. Baillie South Dakota	Roger F. Eastman South Dakota	Henry P. Bauman Iowa
VI	1958-1959	William J. Rost Missouri	Lewis DeClerck Missouri	R. O. Bachmann Arkansas
	1959-1960	Ralph Bienfang Oklahoma	Dean D. Raley Oklahoma	R. O. Bachmann Arkansas
	1960-1961	Noel M. Ferguson Texas	William H. Wood Texas	R. O. Bachmann Arkansas
VII	1958-1959	Haakon Bang Washington	Frank Lenz Montana	L. Wait Rising Washington
	1959-1960	David O'Day Wyoming	Ralph Robertson Oregon	L. Wait Rising Washington
	1960-1961	Varro E. Tyler, Jr. Washington	Al Bailey Washington	L. Wait Rising Washington
VIII	1958-1959	John J. Eiler California	Eldon Frost Utah	Ewart A. Swinyard Utah
	1959-1960	Curtis H. Waldon Colorado	Alfred J. Duncan Arizona	Ewart A. Swinyard Utah
	1960-1961	Joseph Zapotocky Arizona	Edna W. Risch Colorado	Ewart A. Swinyard Utah

REPORT OF THE COMMITTEE ON RESOLUTIONS

The Committee on Resolutions has labored under difficult circumstances this year. Because of the brevity of the convention schedule, it has been necessary to accomplish in one evening and one morning session this most important activity of the convention, for which two evenings have customarily been available. For this reason the committee begs the tolerance of the convention with respect to any imperfections which may exist in the prepared report. Once again the committee would like to recommend that chairmen of committees follow an oft-repeated directive that recommendations which are expected to be introduced in the form of resolutions be separated from the body of the report and handed to the Committee on Resolutions in the form of proposed resolutions. These should be transmitted to the chairman of the Committee on Resolutions well in advance of the convention in order that the work of the committee may be expedited.

I. From the address of the President

1. *Whereas*, there exists a need for more statistical information about our schools of pharmacy and our personnel, including (1) the student capacity of the undergraduate and graduate divisions and the number of graduates which can be provided at each level with our existing and with our anticipated facilities of five years hence, and (2) the cost per year to educate a pharmacist, therefore,

Be it resolved, that the Special Committee on Manpower be continued for the purpose of gathering this and such other statistical information on manpower as may be deemed essential.

Approved by the Committee on Resolutions and adopted by the Convention.

2. *Whereas*, there is concern for more continuous utilization of college facilities, and,

Whereas, this has led to the consideration of trimester or similar plans by some universities, and,

Whereas, these programs pose a number of special problems for faculties and students of professional schools, therefore,

Be it resolved, that the Executive Committee be directed to give consideration to this matter with the objective of formulating a guiding policy based upon the standards of

the American Council on Pharmaceutical Education for use by administrators of member schools.

Approved by the Committee on Resolutions and adopted by the Convention.

II. From the report of the Committee on Curriculum

3. *Whereas*, the report of the Committee on Curriculum has revealed that proposed and existent five- and six-year programs limit the provisions for humanities, arts and social sciences as a result of expanding the professional offerings, and,

Whereas, this practice curtails the more broadening aspects of the expanded program for pharmaceutical education, therefore,

Be it resolved, that faculties be urged to study continuously their curricula with the purpose of augmenting whenever possible the offerings in the areas of general education.

Approved by the Committee on Resolutions and adopted by the Convention.

4. *Whereas*, there has been misunderstanding of the nature of the Doctor of Pharmacy degree in some quarters, and,

Whereas, the current six-year programs extend the time requirement for students intending to enter graduate schools, therefore, the Committee on Curriculum has recommended the following:

1. That plans for the six-year courses include provision for all students to receive a B.S. degree in pharmacy or a similar degree at the completion of the fifth year.
2. That following the fifth year for those students seeking careers in retail or hospital pharmacy and who qualify for further study toward this phase of the profession, the sixth year be devoted to supervised clinical practice as an integral part of the curriculum along with ancillary courses of postgraduate caliber.
3. That students graduating at the end of the sixth year under this plan receive the Phar.D. degree.
4. That all other pharmacy students with the B.S. degree may elect postgraduate studies in the sixth year, such as those

leading to the M.S., M.B.A., Ph.D., or others of their choice. These would include manufacturing or industrial pharmacy, research and teaching.

The Committee on Resolutions, though not unanimous in its opinion, believed that this resolution, if adopted, would present serious difficulties to administrators of six-year programs and that the recommendations of the Committee on Curriculum needed further study with respect to their implications if adopted as directives.

The Committee, therefore, recommended that the resolution be referred back to the Committee on Curriculum for further study. The Convention approved the recommendation of the Committee on Resolutions.

5. *Whereas*, the Committee on Curriculum has urged that trimester plans should not be adopted by colleges of pharmacy, and,

Whereas, a previous resolution has been introduced as a result of the President's Address recommending a study of such programs with the purpose of formulating a guiding policy, therefore,

Be it resolved, that colleges considering the adoption of such a plan be encouraged to defer such adoptions until the Executive Committee's policy has been formulated.

Approved by the Committee on Resolutions and adopted by the Convention.

III. From the report of the Committee on Audio-Visual Education

6. *Whereas*, the members of the Association need to be continuously advised with respect to the advances in audio-visual aids to education, and,

Whereas, the Committee on Audio-Visual Education has requested permission to hold a special film exhibit during the scheduled program of the Association's annual meeting, therefore,

Be it resolved, that the members of the Association approve this project in principle and recommend its implementation by the Executive Committee pursuant to such limitations as may result from time scheduling or space requirements.

Approved by the Committee on Resolutions with the recommendation that it be referred to the Executive Committee for appropriate action. Adopted by the Convention.

IV. From the report of the Committee on Recruitment Aids

7. *Resolved*, that the Committee on Recruitment Aids be requested to develop and

prepare copy for a booklet of pharmaceutical projects for high school science students and that the membership of the Committee be selected in accordance with this purpose.

The resolution was adopted by the Convention.

V. From the report of the AACP-NABP Committee to Redefine the Term "Pharmacy"

8. *Whereas*, there is a long-felt need for a new definition of pharmacy which would more fully explain the present functions of the practitioner, and,

Whereas, the acceptance of such a definition would help to bring about a better understanding of all aspects of the profession, therefore,

Be it resolved, that the Association endorse the definition as introduced by the Joint Committee of the AACP-NABP, and that this new definition be widely disseminated as representing the preferred definition for use by dictionaries, books of reference and other authorities, and,

Be it further resolved, that the special committee be discharged with the gratitude of the members of this Association for the successful culmination of a difficult assignment.

Approved by the Committee on Resolutions and adopted by the Convention.

(Editor's Note: For later action on this matter, see the Addendum to the Report of the AACP-NABP Committee to Redefine the Term "Pharmacy," this journal, 25, 102 (1961)).

VI. From the report of the Committee on Problems and Plans

9. *Whereas*, some states now require that a part of the required experience be completed after graduation, therefore,

Be it resolved, that our Association appoint a committee composed of educators, practicing pharmacists, state board members and industrial representatives to study and make recommendations regarding the feasibility of incorporating the year of required practical experience into the six-year program in the near future.

The Committee on Resolutions was of the opinion that this problem is of concern to the Committee on Curriculum and recommended referral to that committee for further study. Approved by the Convention.

VII. From the report of the Committee on Status of Pharmacists in the Government Service

10. *Whereas*, there continues to be a shortage of pharmacists in the Air Force, Army, and Navy, and,

Whereas, these services do not have authorized allocations for officer appointments in order that the required number of pharmacists can be obtained, therefore,

Be it resolved, that the Association renew its efforts to obtain the required legislation for the appointment of pharmacists as commissioned officers in the Medical Service Corps of the respective services as required to meet the needs for pharmacists.

The Committee on Resolutions approved adoption of this resolution and recommended that it be referred to the House of Delegates of the American Pharmaceutical Association with the endorsement of the AACP. Approved by the Convention.

11. *Whereas*, pharmacists could be of assistance to the respective Medical Service Corps of the armed services when given an opportunity to serve in an advisory capacity, therefore,

Be it resolved, that the American Association of Colleges of Pharmacy endorse the appointment of an Advisory Committee to the Medical Service Corps of the Air Force, the Army, and the Navy.

Recommended by the Committee on Resolutions that this resolution be referred to the American Pharmaceutical Association for implementation. Approved by the Convention.

VIII. From the report of the Committee on Public Health and Civil Defense

12. *Whereas*, inadequate information is available regarding Civil Defense plans and activities, and,

Whereas, there is no single agency from which such information is readily available, therefore,

Be it resolved, that the Association establish a central repository of pertinent bibliographies related to Civil Defense.

The Committee on Resolutions was of the opinion that such information should be available to the members of the Association but was also aware that similar activities are being carried on by the American Pharmaceutical Association. Furthermore, it was the opinion of the Committee that a repository has little utility unless there is an accompanying plan for continuous dissemination of pertinent information.

The Committee, therefore, recommended the endorsement of this plan in principle but

suggested that it be given further study by the Committee on Public Health and Civil Defense for the preparation of a program which would involve dissemination of information through such a medium as the Association journal. The Convention approved the recommendation of the Committee on Resolutions.

13. *Be it resolved*, that the American Association of Colleges of Pharmacy endorse the leadership of the American Pharmaceutical Association in the development of a national plan for the integration of the pharmacist into Civil Defense plans and urge the Committee on Public Health and Civil Defense to explore methods of cooperating with this endeavor.

Approved by the Committee on Resolutions and adopted by the Convention.

IX. From the report of the Committee on Predictive Tests

14. *Be it resolved*, that the Association endorse the proposal of the Committee on Predictive Tests to carry out a more specific study of testing programs in current use in an attempt to determine whether the expense of developing a special battery of tests can be avoided.

Approved by the Committee on Resolutions with the recommendation that it be referred to the Executive Committee for appropriate action. Adopted by the Convention.

X. From the report of the Committee on Continuation Studies

15. *Whereas*, results of pharmaceutical research and experimentation should be made immediately available to our practitioners if human suffering is to be alleviated, and,

Whereas, the rapid development of new pharmaceutical products and of new ways of using drugs requires a vigorous and comprehensive program of continuing education, and,

Whereas, such a program is essential if the health and welfare of our citizens are to be served, and,

Whereas, limited funds prevent our schools of pharmacy from engaging in an effective program of continuing education for pharmacists, physicians, veterinarians, dentists and other public health personnel, therefore,

Be it resolved, that the American Association of Colleges of Pharmacy heartily endorse Bill H. R. 357 and S. 648, known as the University Extension Bill, and that a copy of this action be sent to the chairman of the proper committee in both the House and the U. S. Senate, and,

Be it further resolved, that member schools and colleges be encouraged to continue to build their program in the important area of continuing education and strive to find more effective means of reaching their public, and,

Be it further resolved, that the deans of the colleges and those connected with the continuing education program continue to inform member schools, the professional and the lay press as to their activities, and,

Be it further resolved, that the Association express appreciation to Representative Elliot, chairman of the Subcommittee on Special Education of the Committee on Labor and Education, for the opportunity to appear in the behalf of the University Extension Bill, H. R. 357, and to the American Pharmaceutical Association and to Ray Dauphinais for the support given the University Extension Bill, H. R. 357 and S. 648.

The Committee on Resolutions recommended adoption of the resolution and referral to the Executive Committee for appropriate action. The Convention approved the recommendation.

XI. From the report of the Committee on Hospital Pharmacy Education

16. *Whereas*, there are many problems relating to the education and training of hospital pharmacists that are of mutual concern to the American Association of Colleges of Pharmacy and the American Society of Hospital Pharmacists, and,

Whereas, a committee composed of representatives from the organizations involved could serve as a suitable forum for exchange of ideas relating to education and training of hospital pharmacists, now, therefore,

Be it resolved, that the American Association of Colleges of Pharmacy approve the establishment of such a committee which shall be advisory in nature operating under Administrative Regulations proposed by the Committee on Hospital Pharmacy Education and approved by that Committee in its meeting in Washington, D. C., on March 26, 1960, and presented to this Convention in the report of the Committee on Hospital Pharmacy Education, and,

Be it further resolved, that this new committee shall be a continuing committee to be designated as the Joint Committee on Hospital Pharmacy Education, and the special committee designated as the Committee on Hospital Pharmacy Education be discontinued.

The Committee on Resolutions, while endorsing the principle of a joint committee,

recognized that this resolution would involve the expenditure of funds of an indeterminate amount, and also recognized that implementation of the regulations would require further study by the Executive Committee. The Committee on Resolutions, therefore, recommended that the resolution be referred to the Executive Committee for consideration. The Convention concurred in this recommendation.

XII. From the report of the Committee on Committees

17. *Be it resolved*, that the recommendations made in the Report of the 1960 Committee on Committees be approved, and,

Be it further resolved, that a "Guide for AACP Committees" be prepared and published in form as directed by the Executive Committee and include pertinent data from the Constitution and Bylaws, 1954 and 1960 reports of the Committee on Committees, Officers' Manual, and minutes of the AACP Executive Committee.

Approved by the Committee on Resolutions with the recommendation that this resolution be referred to the Executive Committee. The Convention adopted the resolution and approved the recommendation of the Committee on Resolutions.

XIII. From the address of the Vice President

18. *Whereas*, there should be a standardized realistic internship in line with the new educational requirements, therefore,

Be it resolved, that the Association appoint a special committee to consider this matter and to present recommendations to be examined by the Association and forwarded to the NABP, or appoint a special committee to work with a similar committee of the NABP for the same purpose.

Aware that the Committee on Curriculum is currently studying this matter, as indicated in resolution number nine, the Committee on Resolutions recommended that this proposal be referred to the Committee on Curriculum for study. Approved by the Convention.

19. *Whereas*, it would appear that the American Society of Hospital Pharmacists has now become an organization of sufficient stature to lay plans for recruitment of more students into this study, therefore,

Be it resolved, that the Committee on Hospital Pharmacy Education of this Association make a special study of education in hospital pharmacy under the five-year program as it relates to the small hospital and make

a report with recommendations at the next meeting of the Association.

The Committee on Resolutions recommended the referral of this proposal to the Executive Committee for appropriate action. The recommendation was approved by the Convention.

20. *Be it resolved*, that the Executive Committee canvass the members concerning the present plan of meeting based upon the result of this year's program with the aim of ascertaining the feasibility and desirability of holding the annual meeting of the Association in conjunction with the Teachers' Seminar scheduled for that particular year.

The Resolutions Committee approved the resolution, and the Chairman of the Committee moved its adoption. The motion was seconded.

As the result of discussion from the floor, this motion was replaced by a substitute motion by Tice-Daniels, as follows:

Resolved, that the Association continue to meet on the three-year schedule as determined last year and as may be modified by the Executive Committee, and that next year it place on the program a debate on the subject of future programs.

Approved by the Convention and referred to the Executive Committee.

21. *Be it resolved*, that the Committee on Public Health and Civil Defense make a study of the teaching of public health courses by member colleges as it exists today and make recommendations as to how the Association and its members may improve matters under the extended program and present such recommendations at the next annual meeting.

The Committee on Resolutions approved this resolution and suggested that it be referred to the appropriate committee. Adopted by the Convention.

XIV. From two member colleges

22. *Whereas*, a recent decision of the Oklahoma Supreme Court has directed the Oklahoma State Board of Pharmacy to give a practical examination for assistant pharmacist registration to applicants with only two years of practical experience, and,

Whereas, the licensure of such unqualified persons is not in the best interests of the public health,

Be it resolved, that the American Association of Colleges of Pharmacy expresses its regret at this development.

The Resolution was approved by the Convention and referred to the NABP.

XV. From the report of the Committee on Relationships of Boards and Colleges

(District 4)

23. *Be it resolved*, that this district urge creation of a directive agency for centralized, aggressive planning and direction for a continued public relations program on careers in pharmacy at the national level, preferably within the A.Ph.A., so organized as to enlist cooperation from the AACP, other national pharmaceutical organizations, and members of the pharmaceutical industry.

The Committee on Resolutions was aware that such a plan is being formulated and suggested that the Executive Committee so inform the members of District 4 at their next meeting. The Convention approved the suggestion of the Committee on Resolutions.

(District 7)

24. *Whereas*, there appears to be some confusion among members of boards of pharmacy regarding the equivalence of the Bachelor of Pharmacy and Bachelor of Science in Pharmacy degrees as indicated in Article I.7.b. of the Bylaws, therefore,

Be it resolved, that the NABP be requested to communicate this information to its member boards and to recommend any necessary changes in state pharmacy acts.

Approved by the Committee on Resolutions and adopted by the Convention.

25. *Whereas*, there has been an increasing number of accidental poisonings from products intended for household use, and,

Whereas, the American Medical Association has proposed a program of legislation requiring manufacturers of products for home use to list ingredients on the labels of their products, therefore,

Be it resolved, that the AACP endorse this proposed legislation and instruct the secretary so to inform the secretary of the AMA.

Approved by the Committee on Resolutions and adopted by the Convention.

(District 8)

26. *Resolved*, that the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy take whatever steps are available to them to curb the practice of using advertising claims for over-the-counter pharmaceuticals in a manner which is inimical to public health.

Recommended by the Committee on Resolutions that this resolution be referred to the American Pharmaceutical Association for study and appropriate action. Approved by the Convention.

XVI. From the Committee on Resolutions

27. In recognition of the outstanding work of Dr. Melvin R. Gibson as editor of the *American Journal of Pharmaceutical Education*,

Be it resolved, that this Association express its deepest appreciation for his dedicated services and excellence of performance.

The resolution was adopted by the Convention with a rising vote.

28. *Whereas*, Dr. Louis C. Zopf has served the Association in many capacities and has given unselfishly of his time to matters of the Association,

Be it resolved, that the Association express its gratitude to Dr. Zopf.

The resolution was adopted by the Convention with a rising vote.

29. *Whereas*, Dr. George Webster has served efficiently and with distinction as secretary-treasurer of the Association during the past four years,

Be it resolved, that the Association express its appreciation of this service to Dr. Webster.

The resolution was adopted by the Convention with a rising vote.

30. *Whereas*, the arrangements made by the local committee for the 1960 meetings of this Association have reflected excellent planning and foresight and have been adequate in every respect, therefore,

Be it resolved, that the AACP express its appreciation to officials of the University of Colorado for their cooperation and especially to Dean Curtis H. Waldon and his staff for their services.

The resolution was adopted by the Convention with a rising vote.

Joseph B. Sprowls, Chairman

CONTINUING COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON AUDIO-VISUAL EDUCATION

The Committee on Audio-Visual Education continued to be concerned during the past year about its services to the colleges of pharmacy in this Association. Results from a recent survey on the present status of visual education indicate that this Committee's program is a worthwhile one.

Present Status

One-third of the colleges of pharmacy responded through their respective coordinators to a request for an appraisal of their audio-visual programs. The Committee is encouraged because there was an increased number of replies, approximately 75 per cent more than last year, and, furthermore, the reports have been much more comprehensive and informative than the previous ones. This indicates that the role of the coordinator is an asset to this Committee.

All but two of the colleges reported progress in one or more areas of visual education and, with the exception of one, were optimistic and certain of further progress.

There has been a noticeable increase in the purchase of equipment, particularly various types of projectors. Of these, the Vu-Graph appears to be the most popular, especially from the standpoint of its adaptability. Many of the colleges are making provisions for their equipment to be more accessible for immediate use. Faculty members in several of the colleges are using the Polaroid Land camera to a great extent. In general, pride in the possession of suitable equipment has laid the groundwork for the use of more visual aids.

According to the reports which contained comments and specific information on the usage of visual material, there has been a noticeable increase (1) in the number of films used, (2) in the range of subjects presented and (3) in the effort to secure better quality films. In several colleges, slides or strip films are regarded as more helpful than movie films; consequently there is a tendency for departments to accumulate a large number of teaching slides. The areas in which

films or slides are most frequently used are in descending order as follows: pharmacology, pharmacy administration, pharmacognosy, extension, pharmacy, hospital pharmacy and chemistry. There has been a greater percentage of increase in the use of film material in pharmacy administration than in any other area.

In place of film showings during regular classes, several colleges have scheduled, usually weekly, film showings on subjects of medical and pharmaceutical interest. This allows more lecture time for the use of slides specifically prepared and related to the subject of immediate concern.

One college reported on the successful use of closed television in pharmacology. No doubt others are employing specialized teaching techniques, and, if so, it is hoped that the colleges sharing this interest will get together for the purpose of improving over-all methods.

According to the comments, there has been an improvement in the exchange of information among faculty members within a college. There has been an increase in the number of inquiries as well as in the number of expressions sincerely concerned with the values of visual aids. It is the consensus of this Committee that there is a growing regard for visual education.

Immediate Needs

It is necessary to reemphasize the importance of communication in the work of this committee. It is believed that a medium in which there is a free exchange of information without the atmosphere of a formal report will encourage others to participate. Provisions should be made whereby persons may know the reactions of others to certain visual aids. Reviewers who will volunteer unbiased opinions on films will be greatly appreciated. It has been suggested that there should be more frequent periodic mailings from the Committee which would include helpful hints and suggestions as well as the more formal information. In return, all co-

operating persons would be expected to keep the Committee regularly informed about their respective problems. Such a methodic exchange would help to establish the much-hoped-for clearing house for information.

It is definitely indicated that the Committee should retain a corps of coordinators for the purpose of communication. In the meanwhile every effort should be made to acknowledge the work of each deserving coordinator.

There is a need to extend the Committee's efforts and to solicit the interest of those colleges that failed to respond this past year. An appropriate approach to the dean or administrator as well as to the coordinator will undoubtedly renew the activity of a number of participants. Where indicated, it will be necessary to enlist the services of another coordinator.

On the basis of requests and comments, it is urgent that a film catalog be made available. A listing of all visual materials pertaining to pharmacy, directly or indirectly, should be indexed and cross-indexed and also categorized under as many specific areas as indicated by the content of the material. It has also been suggested that a notice of deleted films should be distributed as soon as they are known. Thus far the Committee has not found a volunteer who will make such a compilation and keep it current.

There is a continual demand for films and slides in those areas not so well supplied, for example, hospital pharmacy. The rapid advance in new therapy has alerted the teacher to search for schematic drawings, pictures and other visual material portraying the action of new drugs. It is certain that any constructive idea will be more than welcomed by a picture producer.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH AND CIVIL DEFENSE

Public Health

The following statement appears in the Report of the Committee on Committees, *American Journal of Pharmaceutical Education*, page 284, April, 1954, with respect to the functions of the Committee on Civil Defense Education:

2. That the functions of the committee are to outline a minimum list of subject matter items covering material which would be required in order that pharmacists and students of Phar-

Future Projects

Considerable thought has been given to this Committee's recommendation of 1959 concerning the establishment of a film symposium. Since no specific plans were made to begin such a program in 1960, it is hoped the Committee will renew its effort to hold a film showing during the annual meeting of the AACP in 1961.

Since this Committee has expressed much concern about the colleges that are apparently inactive in audio-visual education, it has been proposed that this Committee work for one year very closely with the entire faculty of several such colleges. Every effort would be made to solicit a response from each faculty member by personal contacts and effective correspondence. It is believed that such a personal interest would stimulate a certain amount of favorable reaction. No doubt this experiment is a challenge but one worthy of consideration.

Recommendations

It is recommended by this Committee that:

1. A film symposium be held during the annual meeting of the American Association of Colleges of Pharmacy in 1961. The Committee expresses its desire to cooperate with the program chairman of the AACP in making the necessary arrangements. It is proposed that this feature be made an item on the regular program (thirty to forty minutes) or that it be set up as a special exhibit on film showing.

2. The Executive Committee of the AACP appropriate \$75 to the Committee on Audio-Visual Education for mailing expenses.

Ralph F. Voigt, Chairman

macy could adequately cope with the responsibilities and situations with which they may be confronted in cases of civilian disaster caused by military attack.

Since matters pertaining to public health have been added to the functions of this committee, there is reasonable evidence that some progress has been realized. At least, a forum has been established wherein such matters may be discussed and filtered through to our college programs.

While it is not the intention of this committee to dwell upon the importance of public health in the pharmaceutical curriculum, which is already well known and recognized for its worth, we do feel that your attention should be directed to two papers appearing in the *American Journal of Pharmaceutical Education*, namely, "The Pharmacist's Role in Promoting the Health of the Public" by Joseph B. Sprowls (Vol. 23, No. 4, Fall 1959) and "Public Health in the Pharmaceutical Curriculum" by William W. Stiles and Shirley Cooper (Vol. 24, No. 2, Spring 1960).

Both papers emphasize the moral and professional responsibility incumbent upon both the teacher and the practitioner of pharmacy with respect to communication with the allied health sciences. Likewise, these papers focus attention on health education in general and the untapped potential in both students and practitioners.

Existing first-aid and public health courses in our colleges can be made more meaningful if the student is made to realize that a thorough understanding of the subject matter will prepare him for intelligent and responsible participation in community health problems.

While subjects dealing with management are always well received in the refresher programs and seminars, topics dealing with public health and community responsibility are deserving of greater attention than they presently receive.

In its 1959 report, this committee, among other things, suggested a paper for presentation before the Tenth County Medical Societies Civil Defense Conference, sponsored by the Council on National Defense of the American Medical Association, November 8, 1959, Chicago, Illinois. This paper, "The Role of the Pharmacist in Civil Defense," was prepared by Dr. John A. Biles, professor of Pharmaceutical Chemistry at the University of Southern California School of Pharmacy, and delivered by Professor Ernst R. Kirch of the University of Illinois.*

This committee feels that where competent personnel exists, a vigorous effort should be exerted to have pharmacy represented at the policy-making level in all groups, associations and organizations concerned with Public Health and Civil Defense. The importance of pharmacy's representation in such groups and our potential service and value are well known to all and do not require further comment.

*See page 106.

Civil Defense

The lag in our Civil Defense preparedness program is common knowledge; however, this committee does not feel that such apathy should be accepted. Even though the most desirable approach to organization should come through the federal government and major pharmaceutical associations, the AACP might well recommend and sponsor programs designed to stimulate action in our local and state associations. With the day-to-day technological advances being made by the armed forces, many of our programs may become impractical when the time comes to use them. For protection against such an eventuality, therefore, it is necessary that pharmacy be fully represented in all such planning, either through the state or local planning group. The seriousness of the matter can be best illustrated here today. Let us assume that a genuine alert is now being sounded—the confused result would be a sad commentary on the entire Civil Defense program. While all of our statistics may not be clear, there is no question but that a nuclear attack upon this country would result in loss of life and property too horrible to contemplate. Therefore, it seems pointless to take issue with the government or organizations for the inadequacy of existing programs. This committee feels that pharmacy has a responsibility and a duty to perform in seeing to it that pharmacy groups show more initiative in assuming their rightful place with the other health sciences.

In order to ascertain the extent of pharmacy's participation in Civil Defense programs, thirty letters were addressed to state pharmaceutical associations in the more densely populated states. The results were not altogether surprising. Nineteen state association secretaries responded as follows:

Question No. 1: Do you have a state program for Civil Defense and Public Health?

- 14—Yes
- 2—"Don't know"
- 3—No

Question No. 2: Are there such programs in cities and counties in your state, and

- 11—Yes
- 1—"Don't know"
- 7—No

Question No. 3: What is your opinion of existing Civil Defense and Public Health Programs among pharmacists in your state?

- 5—Satisfactory
- 14—Unsatisfactory

While the above replies certainly do not offer a basis for any conclusion, they repre-

sent an indication of what has long been suspected. Although fourteen secretaries expressed dissatisfaction with the present status of pharmacy in Civil Defense and Public Health programs in their respective states, each secretary indicated that pharmacists were willing to participate and lend assistance if invited to do so and given a plan to follow.

A forthcoming issue of the *Practical Edition* of the *Journal of the American Pharmaceutical Association* will be devoted to the pharmacist's role in civil defense, defense mobilization, and disaster preparedness. The issue will also have a state-by-state review of civil defense activities on a state and local level, and an account of some personal experiences of practicing pharmacists who serve in official capacities in various levels of activity.

In summary, this committee feels that the American Pharmaceutical Association is

about to evolve a national plan for pharmacists; hence, for the time being, we feel that the following suggestions are worthy of consideration:

1. That the colleges place renewed emphasis upon public health instruction.
2. That the state and local pharmaceutical associations seek closer affiliation with organized health programs such as the American Cancer Society, the medical insurance plans, and the Diabetes Detection Programs.
3. That this committee of the AACP establish a central repository of pertinent bibliography related to Civil Defense and maintain current information, and
4. That the AACP urge the American Pharmaceutical Association to assume the leadership role in establishing a national program for pharmacists in the over-all Civil Defense planning, at the policy-making level.

Chauncey I. Cooper, Chairman

REPORT OF THE COMMITTEE ON FUTURE ENROLLMENT PROBLEMS

At the Detroit meeting in 1956 this Committee presented summaries of present (at that time) and probable future curriculum patterns, of the adequacy of number of graduates, of the need for additional physical facilities, of the point at which increased numbers of graduates would necessitate additional physical facilities, of staff additions necessary at several levels of increase in number of graduates and of opinions on manpower supply for retail pharmacy.

At the 1957 meeting in New York City the Committee presented a study of student opinions, and factors which influenced those opinions, of pharmacy as a career possibility at the time the students were making career decisions.

At the 1958 meeting in Los Angeles the Committee posed three important questions for which no answers could be given at that time. Nor can answers be given yet. However, the Committee last year, at the 1959 Cincinnati meeting, added some additional information, particularly on the attraction, admission, and survival of new students. Similarly, in this report, the Committee will attempt to add a ray of light on one of these questions even though full illumination is still not possible. The Committee also wishes to reiterate the recommendation in the 1959 report: that the Association seek support for and initiate a thorough study of two of the questions raised in 1958:

1. What really is the current and probable future need for graduates in pharmacy in the United States, and
2. What is the prevailing attitude concerning pharmacy as a career among high school students?

When these two studies have been completed, both should be subjects for continuing review. They are of basic importance.

The Committee would now like to comment briefly on the situation which resulted in the current emphasis in recruitment activities being carried to the extent of permeating the profession and becoming national in scope with the coordinating function being spearheaded by the American Pharmaceutical Association. This situation was complex and included a decline in enrollments in colleges of pharmacy (from 1950 through 1957) at a time when the shortage of pharmacists was being felt in more and more areas across the country. Pharmacists were confused and discouraged and felt that the field had lost its attractiveness as a career possibility for young people. Many educators felt the drop in enrollments was a readjustment to be expected after the peak enrollments during the G.I. bulge, but had nothing to point to as what a "normal" enrollment should be. Enrollments had been abnormally low during the depression, held low during the war, and had shot abnormally high immediately after the war. There had been no normal enrollment

period for over a quarter of a century. The underlying cause of this was something new in the entire history of the United States.

Figure 2 shows a typical silhouette of the population of the country by age groups prior to 1930. An examination of similar charts for the years 1870 through 1920 reveals the only change to be a gradual decrease in percentages of population in the lower age groups at the left of the chart and a gradual increase in the higher age groups. But in all cases the bar representing those from birth through four years of age was the longest bar on the chart. In 1930, however, for the first time in our history, this was not the case.

Figure 3 indicates the silhouette in 1940 and shows a continuation of the decline in the birth rate. Figure 4 gives the picture for 1960. If the increase in the population in each age group from 1940 to 1960 is expressed as a percentage using the 1940 figure as the base, we see from the results, pictured in the upper left quadrant of Figure 1, that during the period from 1955 to 1960 there were actually 3 per cent fewer people in the age group in which people usually graduate from college than there had been back in 1940. This is the basic cause of the shortages, which are, of course, not limited to pharmacy but cut across all lines of endeavor.

Now if all this confusion has resulted from one drop in the birth rate, what future enrollment problems can we expect from the rollercoaster effect pictured for 1975 in Figure 5? There would appear to be another drop in population in the fifteen through nineteen age group, which includes most college applicants. This results from a predicted drop in the birth rate depicted by the extreme left bar (birth through four years)

on Figure 4. It also shows up in the short bar (fourth from the left) in the lower right quadrant of Figure 1, and in the drop in the solid line in the extreme right column of Figure 6. All of these, however, are based on Bureau of Census forecasts yet to be verified by the 1960 census.

Figure 7 depicts the number of pharmacists in actual practice compared to the number needed in relation to the population to maintain a ratio of some historical significance. This is by no means intended to be the number needed actually, ideally, or practically and referred to in the resolution in paragraph two of this report. It is used here merely as a convenient frame of reference, and is .067 per cent of the population of the United States. For example, in 1920 there were 70,000 pharmacists serving 105,000,000 people, and in 1950 there were 100,000 pharmacists and a population of 150,000,000. The ratio in both these instances is two-thirds of one-tenth of one per cent, or .067 per cent. We were again close to this ratio in 1956, but showed an actual decrease in the number of pharmacists in practice in 1957. It was at this point that recruitment activities stepped up. This year the distance between the two lines has been reduced somewhat and will undoubtedly raise the question of whether we should now reduce our recruitment effort. The answer to this question would appear to lie in the realization of the fact that we are not merely trying to interest a few recruits from a lackadaisical public. We are in active competition with other fields for the highest quality applicants we can attract. Control of numbers entering the field should be at the point of acceptance. In any case, a good recruitment effort is in itself a good public relations program.

Stephen Wilson, Chairman

(Figures 1 through 7 on the following pages)

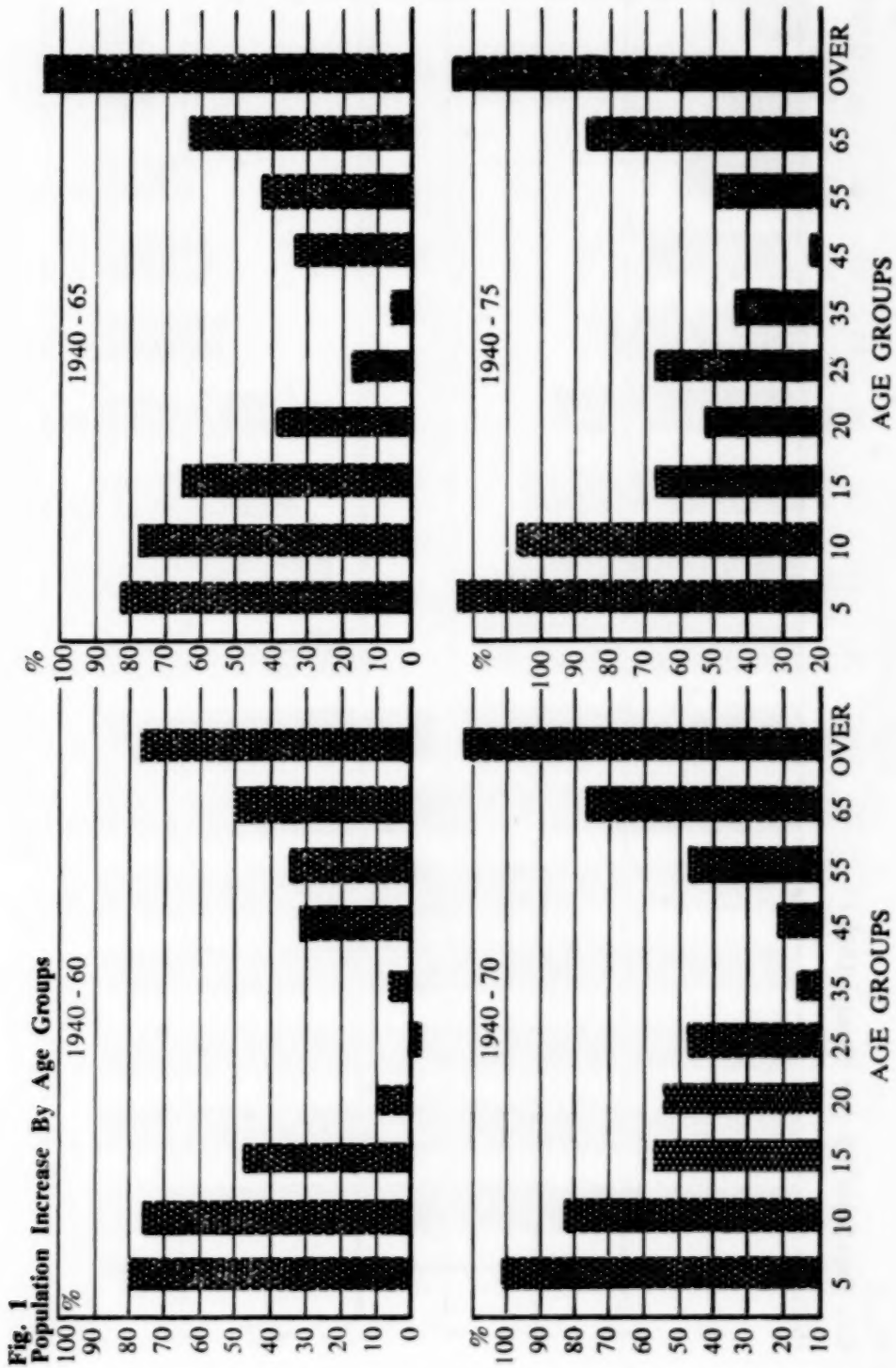


Fig. 2
U.S. Population By Age Groups 1900

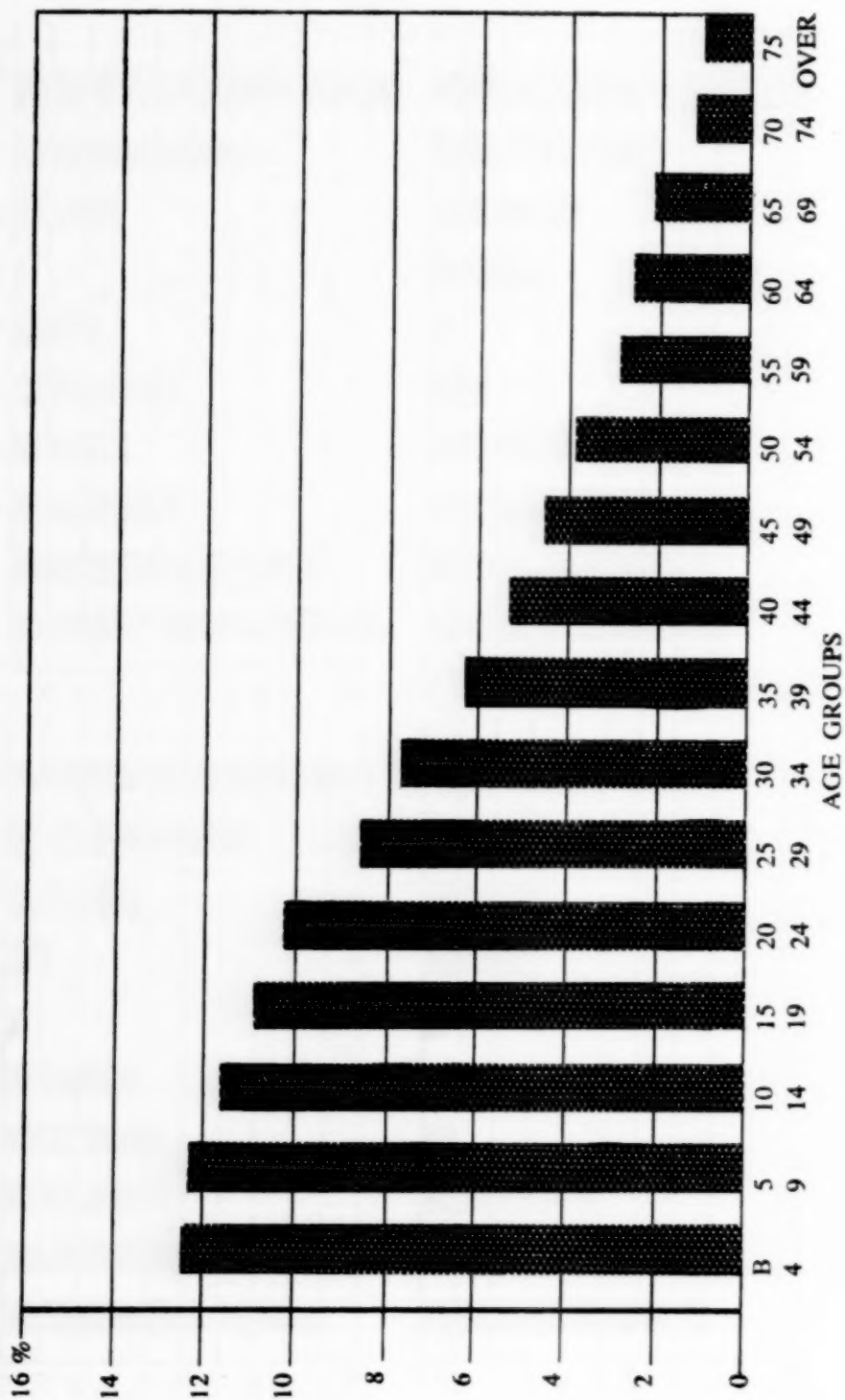


Fig. 3
U.S. Population By Age Groups 1940

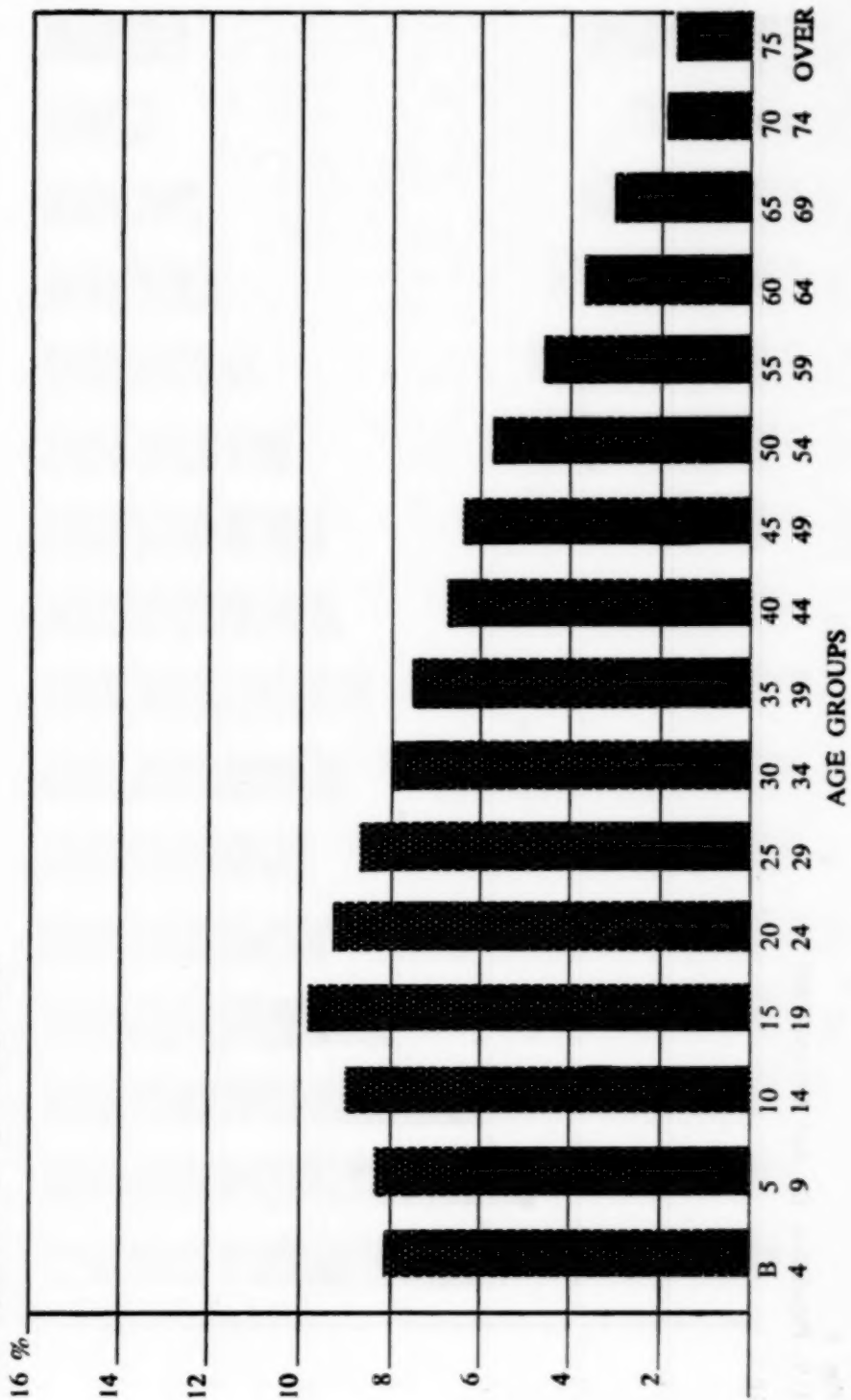


Fig. 4
U.S. Population By Age Groups 1960

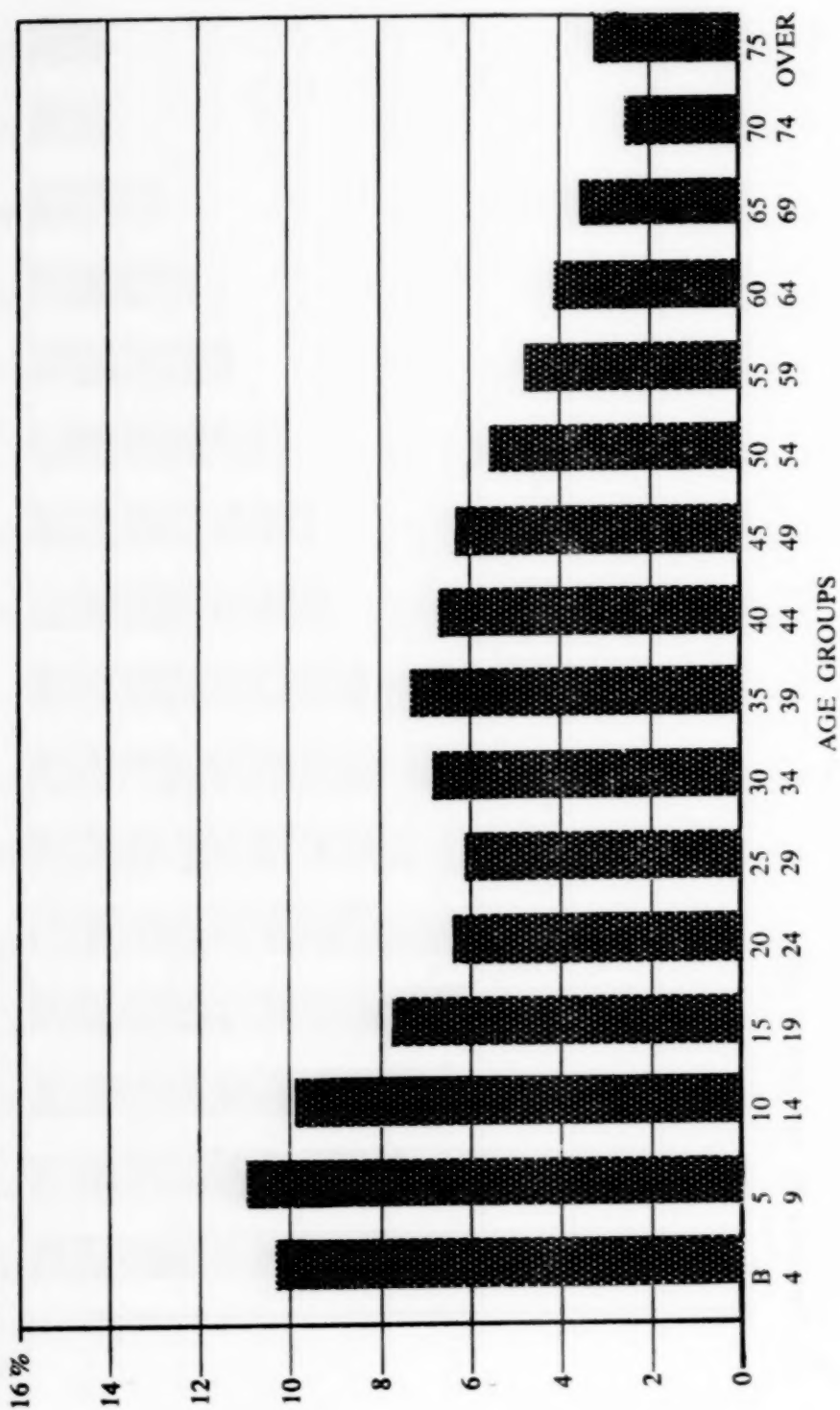


Fig. 5
U.S. Population By Age Groups 1975

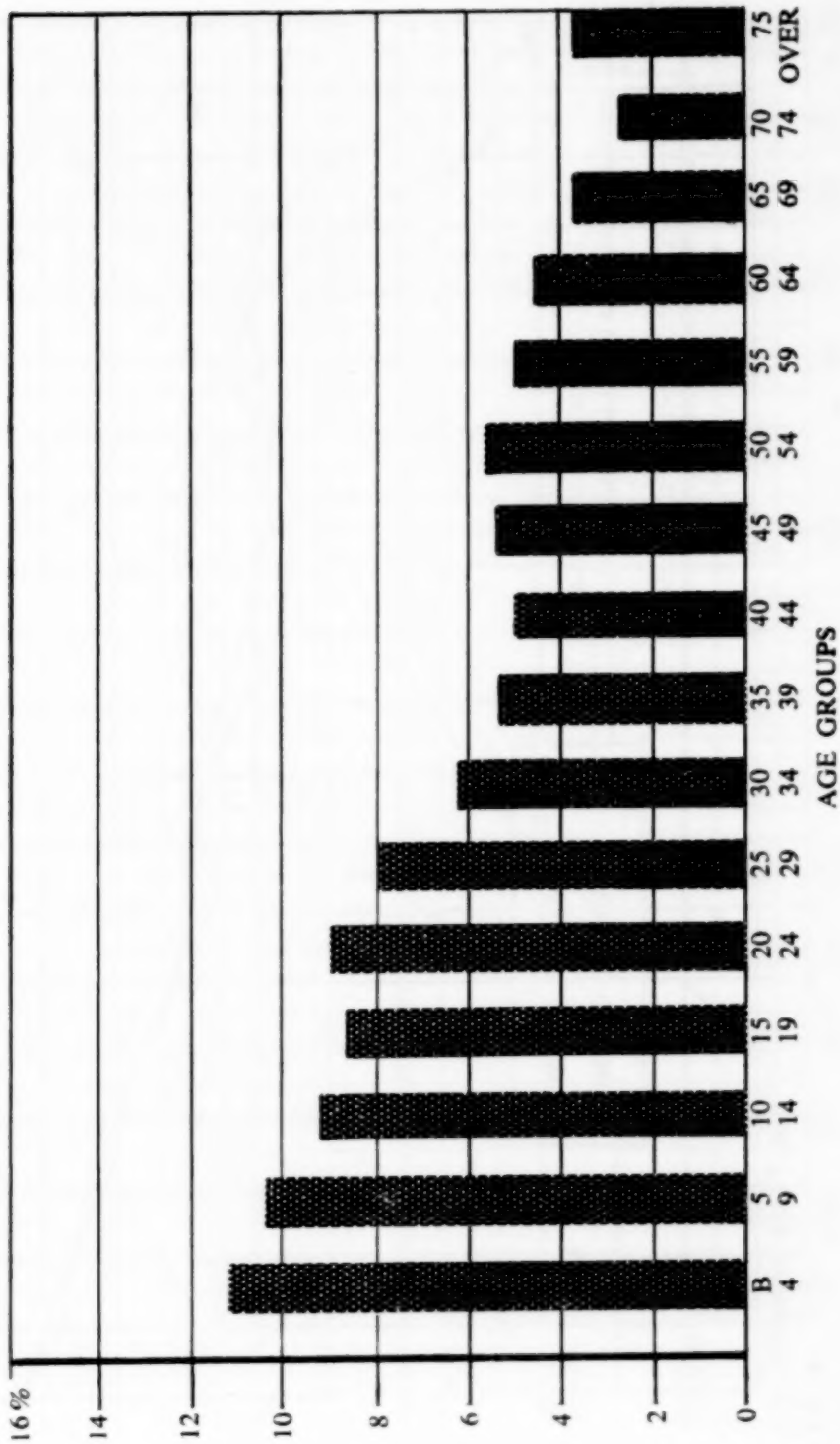


Fig. 6
U.S. Population 1875 - 1975

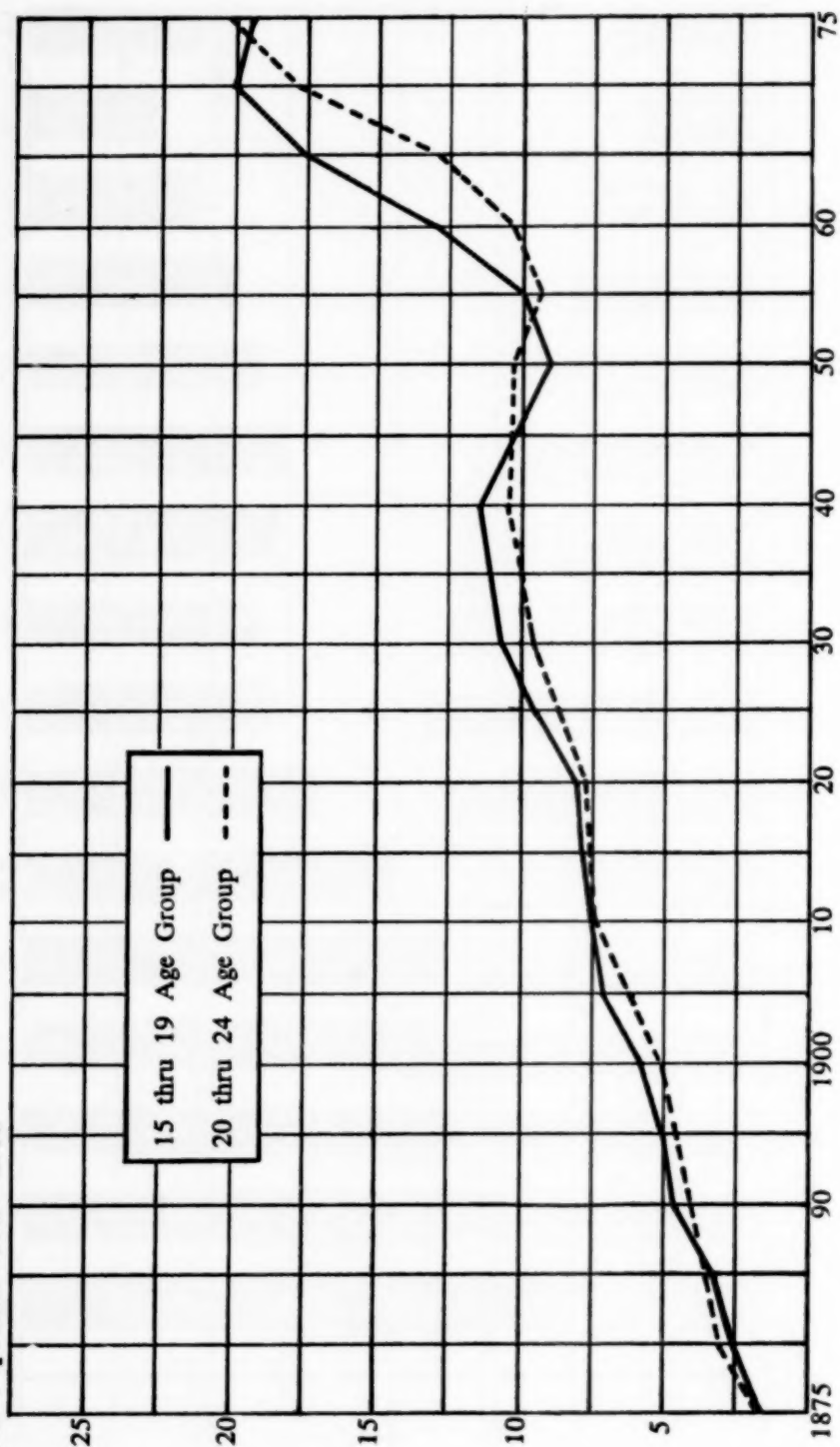
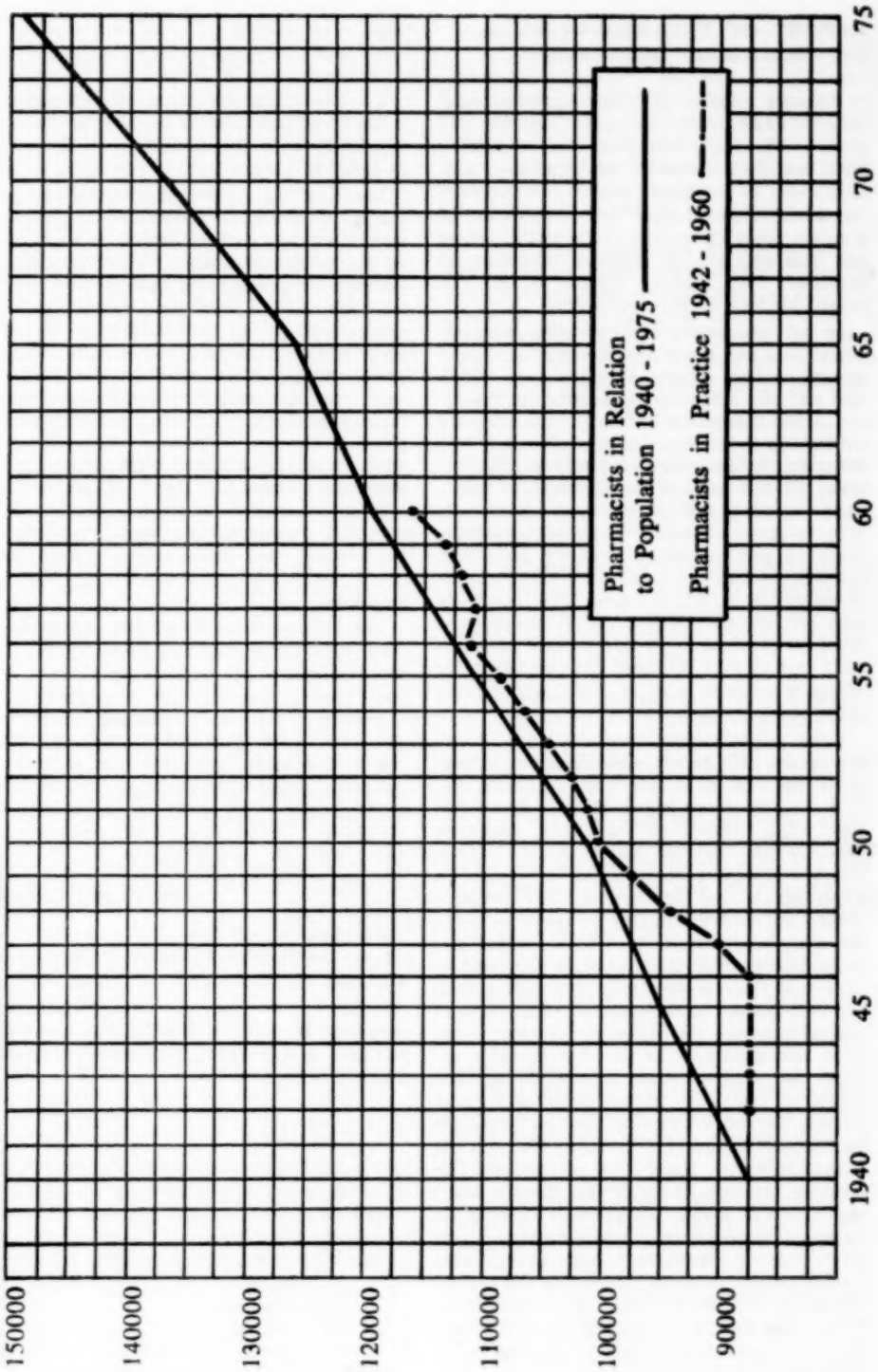


Fig. 7
Pharmacists in Practice vs. Pharmacists Needed



REPORT OF THE COMMITTEE ON GRADUATE PROGRAMS

Previous reports of this committee (see *Am. J. Pharm. Ed.*, 20, 404(1956), 21, 247 (1957), 22, 312(1958) and 24, 45(1960)) have described a number of long-range considerations of graduate education in the various areas of pharmacy. The development of a policy guide to be used in the establishment and improvement of graduate education in pharmacy may well be viewed as the ultimate objective of the committee.

In previous years, this committee has collected data and a number of suggestions relative to various aspects of manpower utilization and pharmaceutical education from leaders in pharmaceutical industry, from graduate students in the various areas of pharmacy and from faculty members currently teaching in many of our schools and colleges of pharmacy. Last year's report dealt specifically with recommendations and suggestions from those in pharmaceutical industry and from graduate students relative to various aspects of pharmaceutical education. This year's report involves the assimilation of the data and opinions obtained from 271 faculty members (271 out of 637 returned the questionnaires which were sent out) in sixty schools and colleges of pharmacy.

With respect to the material contained in this year's full report, the apparent conclusions that can be drawn from questions 1-4, 7, 8, 11, 14-16 are rather obvious and clear-cut. With respect to the other questions, however, the answers shown in the report, which represent a cross-section of opinion as expressed in the answers in their entirety, should be read thoroughly in order to glean the complete picture. It is rather interesting in connection with these answers expressed to note that there is no strong dominating feeling with respect to such items as the value of special courses, the value of seminars—nor even any unanimity as to what should comprise the seminar, time limitations as they might be applied to the obtaining of a Ph.D. degree, formal courses in foreign languages as opposed to special preparation for reading examinations, or supervision of graduate students in research. Undoubtedly, there is much merit in the marked division of opinion on many of these points. Certain factors do appear, however, to have a clear preeminence in the opinion of those completing the survey. These may be briefly summarized as follows:

1. The consistent pointing up of the need to emphasize fundamental disciplines rather than applied techniques.

2. The imperative need of specialization if our graduates are to be able to compete effectively with the specialization demanded in industry today.

Many of the same criticisms of our programs of graduate education in pharmacy were made by faculty members as were made by the graduate students in our institutions. Perhaps the strongest of these is the apparent tendency, in all too many cases, to base graduate courses in pharmaceutical chemistry, pharmacy, etc., on too shallow a foundation. Thus, the pharmacy of pharmaceutical systems may be studied without applying the basic knowledge that one would expect a physical chemist to possess about this very same type of system; similarly, in pharmaceutical chemistry, much of the material may be presented as all too much a "descriptive" approach when basic knowledge in biochemistry and pharmacology would allow us to be much more specific in our presentation.

With the publication of this material, the data from the surveys suggested by the original committee have been presented. Perhaps now is the time for a Committee on Graduate Programs consisting of several members to be appointed to review critically the accumulated data and see if concrete recommendations cannot be made that would prove helpful to all of us engaged in graduate programs. "What you can do, or dream you can, begin it. Boldness has genius, power and the magic to do it."—Goethe

Lewis Nobles, Chairman

Addendum

Survey of Faculty Members in Schools and Colleges of Pharmacy

1. Are you now actively engaged in or have you been recently (within the last two years) engaged in teaching and/or directing research at the Ph.D. level?

Yes	161
No	83
No reply	27

2. (a) What was your major field of graduate study and from what institution did you receive your highest degree?

Field of study:	
Pharmaceutical chemistry	89
Pharmacy	53
Pharmacology	33
Pharmacognosy	18

The remaining seventy-eight replies were distributed among twenty-eight fields.

Institution: The 271 replies were distributed among fifty-six institutions. Those with the largest number of alumni teaching, as represented in this report, were:

University of Wisconsin	38
Purdue University	33
University of Minnesota	20
University of Florida	19
University of Washington	17
University of Maryland	15
University of California	12
University of Michigan	11
University of Illinois	10
University of Iowa	10

(b) What was your undergraduate field of study? If not pharmacy, please specify both major and minor areas of study:

Pharmacy	201
No reply	12

The remaining fifty-eight replies were distributed among eighteen academic disciplines with chemistry the major one encompassing twenty-one of the individuals completing this questionnaire.

3. In terms of your own program while in graduate school, do you feel that you should have had:

Additional courses	67
Additional training in research techniques	50
Both of the above	54
Neither of the above	94
No reply	6

4. (a) Do you feel that your training enabled you to begin independent research after graduation?

(b) Do you feel that you learned to use the literature of your area of specialization effectively? If not, can you suggest methods by which your bibliographical training might have been given more effectively?

(a) Yes	250
No	6
Limited way	13
No reply	1
(b) Yes	250
No	9
Fairly	9
No reply	3

5. Do you believe that restrictions should be placed so as to limit those who shall be permitted to direct Ph.D. research other than the possession of the terminal degree in a field of special training? If so, what should be the nature of these restrictions?

Yes	13
No	94
Undecided	4
No reply	60

Suggestions or Comments

"It appears that the nature and level of academic and other research in pharmacy have been progressing under the present structures. Any restrictions of limitations might serve to exclude a person with a creative mind and great ability merely because some qualification was not met somewhere along the line of training or experience."

"Three years industrial experience in research, or two years postdoctoral study plus one year of either postdoctoral or industrial research, or five years as an assistant to a staff member active in research, or three years of independent research on part-time basis with at least two years publication beyond the thesis work."

"Graduate students, where permitted a voice in the selection of a major professor, select staff members best qualified to direct research and tend to bypass and avoid those less competent."

"The establishment and administration of a formal restrictions system is probably impractical, except as practiced by the deans in their respective schools through employment practices and policy."

"Given the opportunity, a research director will soon make or break his own reputation by publishing results of doctoral research under his supervision, and this is how it should be."

6. Do you feel that you were adequately trained in research techniques other than those used specifically as the basis for your thesis research? Could you offer suggestions as to how this phase of your training might have been improved?

Yes	156
No	87
Not completely	13
No reply	15

Suggestions

"Ph.D. program should be planned to permit taking several special technique courses which will prove valuable in conducting research."

"Up to the individual student to seek techniques. If inspired to search for new procedure, he should not require additional formal training."

"I have had no difficulty in adapting my research abilities to whatever techniques might be needed. Indeed it takes some orientation at times, but I feel that basic

scientific mastery is more important than detailed technique training."

"By substituting some specific courses in research techniques and instrumentation for some of the general research credits I was allowed."

"More co-ordinated and more thorough lab approach; also group projects—where two or three students can participate."

"More individual 'project' type problems utilizing analytical procedures, pharmacologic testing procedures, etc."

"Add work on the use of instruments to facilitate proof of structure. More and better seminars for the graduate students. Here, I think the combined seminars are most useful rather than separating seminars into the individual fields."

"More adequate preparation and direction of graduate lab courses. Broader training in lab courses, not merely material of current interest to teacher."

"Projects in courses with direct supervision and exposure to research techniques. The graduate student is still a student and needs guidance and direction. Personal ingenuity will bring more rapid progress."

"I think any Ph.D. program is limited in the completeness of training obtained—something is always left undone. This, of course, is remedied by later experience provided the man becomes an active researcher. I think it is impossible to become proficient in all available techniques in any one school."

"As much was done in this regard as was possible. Unless the Ph.D. program is to be extended in length, I don't think that anyone feels that he has all the training in research technique that he would like to have. The training period for Ph.D. degree is already too long in some instances."

"With the advent of the five-year program it is to be hoped that the last year should have a place for an elective for academically able students to start some research. If the entire time is filled, and over-filled, with fact-stuffing courses we shall lose a rich opportunity to develop future leaders in research."

7. With respect to the proportion of your courses which were taken outside the school of pharmacy in your own educational experience, do you feel that you had (should have had):

More work outside the school of pharmacy	57
Less work outside the school of pharmacy	6
A good balance	140
Not applicable	38
No answer	40

8. If your school has no graduate program, do you carry on a personal program of research? Do you offer "special problems" or research courses to undergraduates?

Personal program of research:	
Yes	88
No	22
Not applicable	36
No reply	125
Special problems:	
Yes	124
No	46
Not applicable	6
No reply	95

9. There appears to be some difference of opinion as to the value of "special problems" courses versus formal academic courses at the graduate level. Would you express your opinion on this?

Comments

"'Special problems' courses are too often used for faculty benefit, viz., gaining an additional 'pair of hands' in lieu of pursuing genuine purpose of course."

"I believe that it is wise to require of every graduate student a 'special problem' in addition to and not related to the thesis or dissertation research."

"All aspects of the thesis work should be a special problem. I feel that a 'special problems' course has no place in a graduate curriculum."

"'Special problems' courses are excellent provided they are given by vigorous professors. Too much of the content of formal academic courses can be found in the library—so why give them?"

"I believe many 'special problems' courses are too limited in scope and do not give a comprehensive view of the field."

"The value is dependent on the intent of the student and the capabilities of the instructor. Too frequently the instructor is already burdened with an excessive work load."

"Properly handled 'special topics' courses can be very valuable; however, formal courses should not be deleted from a program."

"Special problems" should implement formal courses. Extensive problem work does not usually expose the student to all phases of creative thinking."

"When the number of students registering in a graduate course is fewer than five, the problem type of courses is offered. This is done because no credit is given by the school for courses to graduates with fewer than five in the class."

"The 'special problems' at the graduate level are satisfactory if actually conducted at the graduate level. Recently young Ph.D.'s added to our faculty have reported that the 'graduate' problems courses and seminars, so glowingly described in catalogs, have consisted in a visit to the professor's office several times during the semester to discuss his (the candidate's) problems!"

"The 'special problems' course is of great value in teaching a student how 'to do research.' It is *not* a substitute for formal course work."

"Special problems" courses are trials of fitness for graduate work. They should not be prolonged or converted into thesis work."

10. Would you attempt to evaluate critically the significance of graduate seminars in your own training? How does this apply to seminars in pharmaceutical sciences currently being offered at your institution?

Comments

"The selection of provocative subjects and the critical participation on the part of the faculty members made these seminars stimulating experiences. I believe that the requirement of more seminars for each student could have been beneficial."

"Students are required to present more seminars at this institution, but in my opinion too many of the topics selected are much too broad and very often the result is a general survey rather than a critical evaluation of the given topic. Critical participation on the part of faculty members could stand improvement."

"Seminars are generally of high level. Believe two or more professors—representing different fields—should collaborate in presenting a seminar."

"Graduate seminars should be limited to new developments and new research techniques in the major field of study and in related areas."

"Very questionable. Both then and now. Seminars should require more in the way of 'forced study' on the part of those who listen (graduate students). Make the seminar more like a course with exams, if necessary."

"Graduate seminars, as the name implies, should be conducted by graduate students and not staff members. The topics should preferably come from recent publications in the area of interest to the graduate students. In this respect, it is advisable to divide the entire group into smaller groups in which each area or specialization can be studied more easily."

"At this institution the entire group is divided into various groups of specialization, that is, pharmacology, organic, medicinals, industrial pharmacy, etc. This method is highly desirable."

"Graduate seminars should be of such a nature and quality that they add something to the general or specific knowledge of the students and staff. Seminars which are merely glorified discussion groups without reasonable direction are of little value. However, seminars which are so formalized as to prevent a free discussion of the material presented often become reduced to boring periods of formal papers and fail to stimulate intellectual progress. Seminars which are offered for specific groups of students in specialized fields seem to result in greater stimulation of interest in the subject matter. General seminars, unless carefully controlled for mutual interest, seem to be tolerated with little intellectual effort or stimulation of the group."

"Graduate seminars in my own training permitted the student the opportunity to express one's self freely, to appear before his peers, and to receive criticism from them. Some of the seminars were designed to broaden one's academic background, others to extend research know-how. Many seminars enabled a transfer of thought between departments within the school not otherwise possible."

"Each student each semester should present an hour program based upon the original research of excellent scientists, as shown through publications. Properly conducted seminars (see question number 6 above) are far better training than formal courses, in my opinion."

"Graduate seminars in four schools I've attended have been dismal failures if measured by the amount of knowledge imparted

to the audience per unit time, since they require no prior preparation by the audience. I believe, however, that the purpose of the graduate seminar is to instruct the graduate student in the techniques of preparation and oral presentation of material and, as such, is vital to a graduate training program."

"My own graduate seminars were an important basis of student evaluation. If the student is not overburdened with course work and work for a living, but given ample time to study, this is the best way to prepare future scholars."

"Excellent if they are a blend of discussions and criticisms of new research and of thesis work being done by the student. Guest speakers, if carefully selected, can broaden and stimulate the student's interests."

"Our seminars were of definite value—in searching and correlating the literature. Pharmacy school seminars I have observed have omitted this valuable practice to report on research problems."

"In my own experience, seminars, both research and literature, have been very stimulating. This is not true of the seminars here, largely because of the diversity in background and the need for spending too much time on basic information."

"Some of them were excellent; others were insignificant in their value. I have attended graduate seminars in three different institutions, and no one seems to have the answers to the problem. I believe that a presentation by the student of reports on his personal research project, with a critique of his approach, methods and results, may be a partial answer."

"May be profitable or a 'waste of time' depending on how organized, supervised and conducted. More likely to be worthwhile if restricted to groups with specialized common interests, such as pharmacologists. Both general and specialized seminars have been tried here with the latter generally more successful."

"At the beginning of my graduate training, one seminar was held for the entire group of graduate students in all departments. One semester, e.g., the subject would deal with an introduction to statistics—a teacher from the math department would present this. Later in my training, we had individual departmental seminars. I felt I learned more from this type of seminar, as it was possible

to discuss matters that were more of mutual interest. Each graduate student presented a seminar on a subject of current interest in the particular field in which we were studying. However, I did often feel that seminars could have been held for the purpose of presenting highlights of research of students.

"I also think that one seminar a year should be conducted especially with the view of indoctrinating the new graduate students—especially as to the characteristics of the graduate training, the graduate college requirements, etc., of that particular institution. The student eventually learns such information, but sometimes not until he is well into his graduate study."

"Since we have few graduate students, at the present time, seminars have been conducted for all students—each semester a particular field (e.g., pharmacology or pharmaceutical chemistry) is emphasized and a professor in that particular field plans the seminar to be presented by graduate students."

11. In relation to the other scientific disciplines, do you feel that your training in the pharmaceutical sciences, or closely cognate areas, was:

Excellent	81
Good	123
Fair	18
Poor	3
No reply	14
Not applicable	22

12. If you felt that there were weaknesses in the program of study which you followed to obtain the Ph.D. degree, would you please indicate the nature of them and any suggestions you might have as to how they might best be overcome?

Suggestions

"Courses to help or be used in administrative work. Practice in teaching techniques on college level. Psychology of teaching."

"At the time I had my training I felt the need for additional guidance in my research. This was no fault of the major professor, since he had his hands full. At that time, he had several graduate students. In our Ph.D. program beginning next year, I shall insist on a limit on the number of graduate students in our department."

"The application of electronic instruments to the recording of physiological and pharmacological phenomena."

"Having taken graduate study at a small school, I feel that the lack of new equipment,

especially that used in instrumentation analysis, such as infrared, etc., leaves a void in my background as to the actual manipulation and use of these instruments. This is true also of radioactive techniques."

"Often it is a question of courses taken outside the school of pharmacy not being geared to the needs of the pharmaceutical chemist, such as colloidal and physical chemistry, advanced statistics and radioactive techniques."

"Techniques involving enzyme, mitochondria, and cellular level preparations."

"My minor was botany. Instead of plant morphology, I should have had plant physiology, genetics, and statistics."

"The dependence of pharmaceutical chemistry upon organic chemistry and physical chemistry was not evident in my program. The advanced courses in pharmaceutical chemistry were, therefore, too superficial. As previously indicated, pharmaceutical chemistry must be oriented to courses in organic and physical chemistry. Biochemistry also is desirable."

"Little preparation for teaching was given. Assisting in labs could be worthwhile if properly guided. Language requirements accomplished little else but to encourage cramming. Required course work would be a more equitable solution (in my opinion)."

"Experiment planning and statistical analysis of experimental data."

"Time element—pressure! A more relaxed atmosphere."

"After the usual B.S. program, the advanced student needs more liberal education—integrated programs should be developed."

"More specialized teaching by the school of pharmacy."

"The only area was in writing scientific papers; we were assigned certain research papers, but they were not graded by the professors so that mistakes were not made known to the graduate student."

"The Ph.D. program was good. Unfortunately, too many of us do not decide to enter graduate school until after we have received the B.S. in pharmacy and have practiced pharmacy at the retail level. As a result, our undergraduate training is not directed toward graduate work so that when we do enter graduate school for an advanced

degree, a great deal of academic time must be spent in correcting and eliminating deficiencies acquired as an undergraduate."

"The main weakness in the program of study which I followed was the caliber of courses offered within the pharmacy school itself. For example, courses such as plant chemistry, organic medicinal products, and instrumental analysis were offered with little or no consideration given to the proper prerequisites—that is, courses in advanced organic chemistry and physical chemistry. In other words, these courses generally were not of sufficient caliber to rate as graduate courses."

"Any weaknesses that existed were those of my own lack of full appreciation of the objectives of graduate study."

"Course content should include more recent information. Persons teaching courses (e.g. manufacturing) should be better qualified to use available equipment."

"(1) Specific additional courses in techniques; (2) visitations to industrial labs; (3) sporadic guest specialists via invitations; (4) more work outside the school of pharmacy."

"Not sufficient mathematics and physical chemistry. I still rate my training excellent because of other factors. The five-year program will offer time to remedy this if a proper number of elective courses are available."

"The biggest single weakness lies in the incorporation of 'required' special problem courses during the first two quarters in residence as a graduate student. The courses are premature, lack direction and purpose and serve only to discourage the eager beginning graduate student."

13. In general, the time utilized in the Ph.D. programs in various institutions is subject to certain individual variations, depending on the research problem, the individual, etc. Would you suggest, in terms of calendar years, what you feel to be the minimum time in which one who holds the B.S. degree should be permitted to complete the requirements for the Ph.D. degree? If you feel that there should be no minimum other than the customarily required year's residence, would you please indicate this?

"There should be no minimum other than the one-year residency but left to the discretion of the advisor. The advisor should require adequate time (four to five years) for the student to conduct original research and to acquire a strong theoretical background."

"For students who hold a five-year B.S., the minimum time of academic study and research for the Ph.D. should be two and one-half years, and competent students who apply themselves diligently to their work should expect to spend not more than three years in graduate school."

"See no need for a time requirement. The advisor and the candidate's committee should determine the program and research. When the candidate has met these requirements, the degree should be granted."

"The program cannot be stated in calendar years because of variation in the scheduling of the required formal courses. The minimum one-year residence is an institutional requirement here. A minimum two years may be essential depending on the field."

"Three years is certainly a minimum, although I personally feel that time should not be a factor. It should be based on successful completion of a satisfactory amount of research and course load only."

"Four years full time and a research problem that shows that the individual has completed a creditable piece of work."

"I feel that somewhat over the ninety credit hours of class work, seminars, and research should be required."

"The Ph.D. degree should be a reward for level of accomplishment."

"The number of years spent by individual students is not necessarily a criterion of the amount of work done. A program which allows very industrious students to complete their work within three years seems desirable. About three years minimum."

"Completion of a satisfactory research project should be the criterion."

"If student was so good that he could pass a stiff examination, oral or written, I would not care if there were no other requirements."

"Standards of excellence should not be arbitrarily related to time spent."

"The more time one can take to finish, the greater advantage one has in later years—but for some students an airtight formula should not be required."

14. (a) Should all Ph.D. candidates be required to pass reading knowledge of:

One language	46
Two languages	195
No language	21
No reply	7

(b) Would you prefer that a formal course of training in the "scientific" language(s) be substituted for a reading knowledge?

Yes	30
No	37
No reply	120

Comments

"Formal courses are not desirable in order to acquire a good reading knowledge of any language. This is more a program of the high school."

"We find that most graduate students require a formal course in order to secure a satisfactory reading knowledge."

"No! Independent study and preparation should not be denied to graduate students. More rigorous language exams may be indicated."

"This approach would be much more practical than the varying requirements, for so many various reasons, that are in existence."

"Yes, if I must learn and use a foreign or scientific language, formal training would be best. Under current stress practices, a reading knowledge substitute program tends to be a farce and an academic hardship."

"I think the student should have the language well enough imbedded in his mind that he can use it when he needs it. I don't think that most scientific reading courses accomplish this, and I think that passing language exams is a mockery."

"A formal course devoted to training in reading the language, scientific or otherwise, would probably be more valuable."

"I consider foreign languages a waste of time since they are used so seldom after the Ph.D.—the reading knowledge is soon forgotten."

15. As a general rule do you believe that it is most desirable for a student to have his undergraduate training and graduate training at different institutions?

Yes	210
No	34
Not essential	14
No comment	5

16. In the program of graduate training at your present institution, are certain basic science courses being taught as "specialized courses" for pharmacy graduate students only?

Yes	26
No	196

In some instances	7
No reply	39

17. Do you feel that there should be *more* or *less* actual direction of the research project by the research advisor?

Comments

"The first half of the student's research program should be very closely supervised. Frequent trips to the laboratory and a lending hand are necessary for the beginner. His techniques are usually poor and need supervision. In the latter half he should be better. Let the student do most of the planning.

"The less direction the individual requires the sooner his development of self-reliance and independence."

"There should be enough actual direction so that the graduate student would be on his own more or less; let him work out his problem as much as possible, doing most of his own thinking. The advisor should outline the problem at the beginning of the research project!"

"The student is there to learn; consequently both are necessary—with the primary control in the hands of the student, subjected to the famous words 'where is your evidence?'"

"Considerable actual direction is necessary, particularly for the student beginning a research problem. It is, of course, desirable to encourage thoughtful planning for an avenue of approach."

"Ignoring the student for three or four years is not desirable, but, on the other hand, I don't believe in 'mothering' them. They should consult the instructor only on major decisions and problems."

"Individuals are individuals! I was glad for the large amount of direction I had during the early period. I don't think you can properly compare or regulate practice along this line."

"Depends on the extent to which the student understands the objective of the project and the extent to which he indicates ability to work alone."

"Beyond master's level, only as much direction as the graduate student requests toward the successful completion of a thesis that the graduate student and his advisor have thoroughly mapped out before any research is done."

"I feel that the candidate should work on his own as much as possible, realizing that he cannot be expected to learn certain tech-

niques without some demonstration and advice."

"Advisor should advise, not direct; helpful suggestions are in order, but initiative should be with student."

18. Please evaluate the general examinations given to graduate students in your own institution (prelim - general, qualifying - final, etc.). Are these really learning experiences for the student, or are they regarded more as hurdles which must be cleared in order to achieve the degree?

Learning experiences	60
"Necessary" hurdles	57
Provide need for review	13
Both learning experience and hurdles	53
Not applicable	12
No reply	25

19. General criticisms, comments, suggestions for the improvement of Ph.D. programs in the pharmaceutical sciences. Please feel free to express your opinion on such points as the calibre of graduate students in the pharmaceutical sciences at your institution, the depth and breadth of instruction which current graduate students receive, the calibre of the thesis work required of graduate students, etc. It would appear to be appropriate to receive expressions of your own underlying "philosophy" of graduate work in pharmacy. Should the goal be to develop "Ph.D. pharmacists" (jack-of-all sciences and master of none, if we can allow this as a liberal interpretation), or should our objective be the preparation of specialists in pharmacology, pharmacognosy, pharmaceutical chemistry, etc.?

Comments

"All that is necessary to 'turn out' properly qualified scientists is a properly qualified faculty which is easily determined via nature of publications, consultant activities, professional societies, etc. While a Ph.D. is, of course, a specialist, he must have sufficient versatility and be adaptable to situations as arising. Too great an emphasis on specialization is wrong, even with the vastness of fields today. Let us not forget pharmacy is not a pure science—it is a 'collective.' We are not chemists, botanists, or pharmacologists; we must know a great deal about *all* subjects which are concerned with pharmacy once we approach the doctorate level and should not be so trained in one specialty that we begin to wear 'blind-ers' to the disregard of other fields; we are *expected* to know many subjects and we should."

"Calibre of Graduate Students: For acquiring Ph.D. candidates in our department, we plan to carry out a very careful screening procedure. We are not after number, but we are especially interested in quality.

"Calibre of Thesis: I feel that the quality of the research and thesis work should be such that it will merit publication in the appropriate scientific literature. The work should represent original and independent thinking on the part of the student. It should offer a definite contribution to science—either of a basic or of an applied nature.

"I do not feel that the goal of our graduate program should be to develop 'Ph.D. Pharmacists'; perhaps this should be more the objective of the five- and six-year undergraduate programs.

"I regard the Ph.D. as a specialist in a particular field. He must have a thorough background in his chosen specialty if he is going to compete with the quality of work demanded for that specialty in industry and teaching."

"Our graduate program is rather limited but so far we have had students of excellent calibre.

"In the training of Ph.D.'s a sort of 'jack-of-all sciences' would be of benefit more in the teaching field and only in that field. In pharmaceutical industry the pharmacy major must compete with organic chemists and M.D.'s who are experts or specialists in their fields. In those cases the pharmacy Ph.D. must be a specialist in order even to begin to compete.

"We find some companies which actually do not recognize pharmaceutical chemists as being chemists and the same for pharmacologists (except M.D.'s). In order to keep pharmacists in the industry in positions other than product development we will be forced to specialize, even more highly than at present.

"I will not say that I necessarily agree that this is best for the profession, but we are being forced into the situation because we, as a profession, do embrace so many other sciences."

"I would like to respond to the questions in this series by starting at the end and working forward.

"At the outset, may I say that your wording of the question relating to the Ph.D. degree in pharmacy is not such as to encourage an objective and unemotional reply. Indeed, 'jack-of-all sciences and master of none' may well be a libelous and not a liberal interpretation of what is meant by this degree.

"Personally, I do not think that pharmacy is an area for a research degree. It is a profession, has been, and should continue to be. The argument that one or more of the schools which give an advanced degree in pharmacy have a sound curriculum and a strong faculty is no rational argument in favor of the practice. Scratch any problem in pharmacy hard enough, and one finds himself with the problem in one or more of the fundamental or applied sciences (biochemistry). The indication is that a scientist in one or more of the fundamental areas could tackle a given problem if first it were delineated for him. I prefer to look upon the training in the professional school as a source of information upon which the Ph.D. candidate can draw to delineate his problem, which must be solved by work in one of the more nearly academic areas.

"You asked for an expression of opinion regarding the calibre of students attracted to pharmaceutical chemistry. Clearly, pharmaceutical chemistry should be attracting students of a higher calibre; however, I do not feel that students of a desired calibre will be attracted to the field in adequate numbers until we, in the profession, seek for and gain more respect for the field. Recently, we (pharmaceutical chemistry) were denied a place in the A.C.S. Directory of Graduate Research because we do not have an 'established curricula leading to the Ph.D. degree in the specific field of chemistry'; yet the section on medicinal chemistry has been an integral part of the A.C.S. for many years. Much more than is being done can be done to orient related professions and particularly the drug industry with the nature of the training and the role expected for the Ph.D. in pharmaceutical chemistry. Unfortunately, results of researchers in the field are published in such a wide collection of journals as to give no one a reasonable view of what is being done. Personally, I feel that the *Scientific Edition* should have its name changed to indicate its nature as a journal of research in the general area of pharmacy and pharmaceutical chemistry."

"Specialists: The main point I wish to make is that the research director or advisor should be engaged in actual laboratory research in order to be able to direct a graduate student's efforts. He should be familiar with problems of laboratory technique and methods of analysis, etc."

"The calibre of graduate students at this university is fair to good with an occasional outstanding man. The depth and breadth of

graduate instruction available are outstanding, but there is a tendency to channel the student into research too quickly. The calibre of the thesis work expected is not particularly high but is adequate in my opinion.

"The Ph.D. program does not have to be rigidly designed to produce specialists or to produce 'Ph.D. pharmacists.' It seems to me that a graduate program could do either for a given individual according to his desire and aptitudes. In my own case I wish more had been done to develop and exploit areas to fit me for teaching rather than to have had almost total concern with research."

"Calibre of graduate students here as high as in any other school of pharmacy but not as high as in physical and biological sciences. The depth and breadth of instruction is good, but I feel not enough emphasis is placed on math and physical chemistry. The Ph.D. in pharmacy or pharmaceutical chemistry must have a sound basic knowledge of appropriate physical and biological sciences. This requires carrying them to the low graduate level (upper division or perhaps some graduate courses in the appropriate departments). This does not need to make a 'jack-of-all trades.' First and foremost he should be an expert on pharmaceutical systems, and he cannot be this without the proper background. There is a niche in science for experts on pharmaceutical systems, and he should be trained to fill it and do productive work once he's in. I mean pharmaceutical systems to include physical, physical chemical, chemical and biological aspects of drugs and drug products.

"We are unfortunate in pharmacy in that graduate students are so poorly prepared for graduate work on graduation from schools of pharmacy. This is not true, for example, in chemistry and other sciences."

"Even in a relatively restricted area, such as medicinal chemistry, the breadth of training is quite large and all that should be required as a full program for a Ph.D. degree. One cannot be adequately trained to be an expert in organic chemistry, physical chemistry, analytical chemistry, inorganic chemistry, physiological and biochemistry, pharmacology, manufacturing pharmacy, etc., unless one is a superman or has a very excellent aptitude and can attend course work for a long time. Therefore, specialists within certain limits are needed, and to produce specialists an adequate amount of didactic courses should be required for graduate credit and none for thesis. A thesis cannot be evaluated in terms of didactic credits.

This is recognized by the graduate school at my institution. It prevents 'padding' of the didactic program.

"Above all, for those who can and will participate in research, give such individuals the opportunity. There are plenty who won't. Give them plenty of lecture and classroom duties to earn their keep. A half a loaf just is not the answer. I defy the chair-sitting deans, who should know better, to prove otherwise. Better do one job well than attempt to dabble in many things."

"Since the individual with a Ph.D. enters industry or teaching, it seems to me that his training at the graduate level should be uniform irrespective of the institution he graduates from. The specific specialization in his preparation should be in addition to what I believe are fundamental core courses. These core courses are advanced organic medicinals and the chemistry of natural plant products. How so many colleges of pharmacy can offer Ph.D. work is beyond me. If we are ever going to improve pharmacy at the teaching level especially and also industrial, we must leave graduate training to those universities which have graduate schools in addition to colleges of pharmacy that are adequately staffed in a given area. It's too much work, nay it's impossible, for one- and two-man departments to carry the undergraduate responsibilities and in addition a graduate department. I firmly believe that such institutions should strengthen their undergraduate offerings—and they need it!—and leave graduate instruction to those few who have shown that they are doing not just a 'good job' but a 'fine job.' I would like to see the American Council on Pharmaceutical Education take a firm hold in the graduate area of instruction and establish uniform conditions, curricula, faculties and facilities which a participating school would have to meet as minimum standards before the school would be accredited as an approved school for offering graduate instruction. The mere listing of an institution in the AACP journal as offering graduate work in one, two, three or four areas, is indeed a hollow honor. I think that if they just turned out better pharmacy students (B.S.) their job would be well done, the professors not overworked, and they could leave the hard and burdensome task of graduate instruction to those institutions which have shown their capabilities in this area.

"We couldn't help getting better students at the B.S. level for graduate studies if the undergraduate schools did their proper job. I'm speaking of students from almost all of

the seventy-seven colleges of pharmacy and not those few which have been doing a great job with their undergraduates.

"In an era of 'specialists' we would be going back a generation or two in time if we turned out a 'pharmacy' Ph.D. which embraced all specialties indicated—he would indeed be a 'Jack-Ass' of all sciences."

"Graduate study for the doctorate ought to prepare a student for the stage in his life when he can exercise his mind for independent scientific work (academic or applied) in industry or in academic institutions. He should have obtained by his own free volition a foundation of scientific training and a cultural background enabling him to utilize his technical training. He should have been stimulated, but not directed, to take courses in the humanities to furnish him with the insight for original thinking and developmental work distinct from technological pseudo-experimentation. In my opinion the awarding of a doctorate has deteriorated to a blessing of technical knowledge as an outgrowth of undergraduate spoon-feeding programs of instruction. A Ph.D. should have the insight that he is belonging to an elite with privileges and duties towards society rather than believing that the certificate of his doctorate is signifying his indoctrination with predigested knowledge and thinking. Tendencies to develop Ph.D. pharmacists should be opposed as much as trends of teaching the undergraduate pharmacy student the essentials for his license."

"The calibre of graduate students at our institution leaves, on the whole, something to be desired, as it doubtless does at all schools. Now and then, a student who is naturally not quite satisfied with less but wants to do this task well, whatever that may entail, seems to make up for many others who look for shortcuts and for openings for escapes from arduous undertakings.

"The depth of instruction here appears to me to be adopted a little too often to individual student capacities. The breadth of instruction appears in many instances to be a little narrow.

"Graduate work in pharmacy *must not* be aimed at developing 'Ph.D. pharmacists' or men who know a little about many things or, on the other hand, men who know more than anyone else about very little, i.e., specialists with severely limited horizons. On the contrary, graduate work in pharmacy should be designed to equip every student with useable understandings in areas that are only on the fringe of pharmacy. The student should have

every opportunity possible to become as proficient in chemistry, physics and pharmacology, for instance, as the 'average' student majoring in such studies. His advisor should ponder it well before enumerating for his advisee courses which the latter may 'leave out.' The student should be able, after graduation, to specialize, with post-doctorate study or with a carefully drawn experience program, in any one of the great number of directions that offer themselves."

"At my institution, it is possible to obtain a Ph.D. degree in pharmacology either from the college of pharmacy or from the college of medicine. It is obvious therefore that there cannot be two standards for this work on the same campus. For this reason, at least one member of the pharmacology department of the college of medicine is assigned to the committee of a graduate student in pharmacology in the college of pharmacy. Furthermore, there is a freedom of movement and training between the two areas. Those in the college of pharmacy are rotated through various staff members in the college of medicine, and, in turn, those taking their degree in the college of medicine, are rotated through research projects in progress in the college of pharmacy. It is my considered opinion that our students in pharmacology are equal in all respects to those in the college of medicine. I do not believe, however, that this is true in other graduate areas of pharmacy. One of the big shortcomings seen in pharmaceutical education today is 'jack-of-all sciences master of none type' of faculty member. This not only dilutes our instructional program, but also develops individuals incapable of doing research at a level equal to that in many other areas of the medical sciences."

"The undergraduate degree granted to pharmacy students requires that the student be a jack-of-all trades so that there is no need to continue this process. But rather than Ph.D. in pharmacy, or allied predicted degree, he should begin to specialize in a field more restrictive than all of his undergraduate training coverage. He should not forsake the sciences associated with pharmacy but never take such a diversified course of study that no time is devoted to a more specialized field."

"Ph.D. students should no longer be necessary adjuncts to laboratory courses and should have low teaching loads (if any) and sufficient salary to not have to hold down outside jobs.

"Broad spectrum Ph.D.'s are good teachers but poor research men."

"Specialization has to be indulged in to a considerable extent in the research problem of the graduate student; otherwise a broad acquaintance with other (related) disciplines should be encouraged. We obviously cannot compete with chemistry, pharmacology, or other specialized fields in turning out specialists; hence, our Ph.D.'s must have a unique training and a broader viewpoint to offer. There should be ample room for them not only in the drug industry but other phases of chemical, biological, and medical research wherein extreme heterogeneity of effort is required.

"The calibre of 'pharmacy Ph.D.'s' seems in general to be good as far as intelligence and ambition are concerned; their weakness seems to be deficiencies resulting from their undergraduate training. A strong master's degree program should, however, correct this (along with the five-year program), leaving the Ph.D. candidate to devote most of his time to research and gaining the degree of independence needed for independent research in teaching or industry."

"Efforts are currently being made to re-evaluate the Ph.D. program with less emphasis on courses required (ninety credits) and more on the readiness of individuals at different levels. More power and responsibility are being placed in the hands of the major advisor.

"In these days of specialization there is no place for a Ph.D. with no specialty."

"I feel the Ph.D. degree has a long history of signifying a high level of scholarship within a given area. To a great extent it has been prostituted by many of the science areas when a science rather than a philosophy degree would be more appropriate. To offer such a degree in a professional practice would debase it without cause or precedent. It would be openly stating that our undergraduate or professional program does not produce the finished practitioner as do the programs in medicine and dentistry. I do not believe we want to admit this. The products of such a 'jack-of-all-sciences and master of none' would be like the do-it-yourself-person, who can do a little of everything—poorly."

"Our Ph.D. programs should produce doctors of philosophy in the science of pharmacy. The student must learn the concepts of science in the context of all human knowledge. This can, perhaps, be accomplished

through formal courses in the philosophy of science or in the proper 'atmosphere' in a series of seminars. The vast majority of present Ph.D.'s are, more or less, doctors of some specialized area or science.

"All science is based on physico-chemical principles expressed, in the final analysis, in mathematical terms. The pharmacy Ph.D. programs must be strongly grounded in the indicated subjects, if our students are not to feel, and be, inadequate.

"Sufficient time is still left, in any reasonable program, to specialize in any phase of science toward which the individual's personality inclines him."

"I believe most graduate students regard graduate study as a requirement instead of a privilege.

"There are many graduate students who plan to achieve a degree in a seven-hour day of school and research, and then work in a drugstore at night and on weekends.

"Many graduate students fail to do more than is expected; they are too busy with other attractions—primarily earning money.

"Early marriages have added to the burdens of many graduate students.

"I believe we should train specialists in the pharmaceutical sciences but with an understanding in the other sciences in order that they may realize the contributing values to or from these other areas."

"I have had contact with four graduate students. One was good; three were particularly good. Of the other graduate students I have seen at our college I would rate two or three in the past six years as very good and the rest only average.

"The practice of pharmacy is such that the really motivated person does not enter graduate work; better incomes can be had in commercial enterprises. The dedicated teacher or researcher (or one planning to be one) seldom sees in pharmacy an area for investing his life energy.

"The Ph.D. in any area should be a specialist in his area. I believe that a good man should also have had broad enough training that he can appreciate and make intelligent reference to the work of others in other areas of study in his teaching and research.

"Upon arriving at my institution I came to realize that academic progress hinged to a certain extent on one's having completed the pharmacy curriculum. Another staff member was studying the pharmacy courses on the side; I asked if I could also do so and was encouraged by the dean. I have made many applications in my undergraduate teach-

ing to work I know our students have had in other courses, and I have developed increased respect for several of our staff members as a result of the intimate knowledge of their methods and subject matter. I suppose I'll make such application with graduate students as they come.

"I believe that the department seminars for undergraduate students arranged by the Rho Chi Society at our school are one desirable way of stimulating an improved graduate program. This is an endless job and must be pursued by all of us who want to see the program make progress. I hope to hear the recommendations your committee makes as a result of this questionnaire."

"Pharmacy is the application of basic sciences. Therefore, pharmacy-trained Ph.D.'s must be specialists in a basic science. They must be as well trained as any other Ph.D. in that science. If so they will also be better able to apply this specialization to pharmaceutical problems.

"The training of non-pharmacists in pharmacy programs offers a great challenge. In most cases it will be necessary to orient him without a large amount of course work. Seminars, journal clubs, auditing undergraduate courses and a minimum of specialized courses may do this.

"Since most students undertaking a graduate program in pharmacy college are interested in pharmaceutical applications or biological applications of basic science, it might be expected that their research will be more applied in nature. This need not be detrimental if good scientific procedures are used throughout.

"I definitely do not believe that the pharmacy-trained Ph.D. should be a jack-of-all-trades, but he should probably have a wider program of training than the graduate student in a more specialized area."

"I recommend that our pharmacy graduates, especially those connected to a university, take formal courses in fields related to their major side by side with chemistry, biology and psychology majors, etc. Tailored courses other than the major should be eliminated.

"Although it appears that graduate students are now at a premium, higher standards of performance should be instituted to warrant the terminal degree and to make it as valid in pharmacy as it is in other scientific disciplines.

"Graduate students should be directed in their research and in selection of formal

didactic courses more by their major professor than they are at the present time.

"Eliminate graduate students who show dull, unresponsive work.

"Do not allow a man to receive undergraduate degree, M.S. or M.A., and Ph.D. degree from the same academic institution. This will prevent the cancer of 'inbreeding' which is suffocating departments and schools at the present time."

"We do not offer a graduate program at my institution. Therefore, my comments and criticisms will be limited. I do feel, however, that you have brought up a very important point when you ask if we should prepare 'specialists' in the different fields of pharmacy.

"Personally, I think this idea of preparing specialists could certainly be carried too far. Probably I am speaking from a teacher's standpoint, but I feel it quite imperative to know something of all the different areas of pharmacy. Certainly I have never tried to channel all my thoughts and efforts in one direction, and I would not favor any attempt to narrow the training of our graduate students to that of 'specialists.' There is a need for greater understanding and appreciation for all areas of pharmacy."

"I am of the opinion that for the undergraduate student today the instructor with the more versatile, broad background will do a more thoroughly successful and more intelligent job of orienting the young mind. However, for the graduate student there can be no substitute for the 'specialists' if pharmacy is to attain a respectable place in tomorrow's pattern of scientific disciplines.

"In the so-called transitional period of scientific interest, from which we are emerging, the accompanying progress made in various fields of scientific endeavor, many new ideas, new research methods, and innumerable techniques have been forthcoming.

"The majority of the people in pharmacy were unable to keep abreast of these advances probably in part because of their inadequate backgrounds together with the fact that these 'techniques' were largely developed outside the field of pharmacy.

"As a result, perhaps we in pharmacy have not developed a sufficient 'research attitude' in ourselves and in our students. While our concepts and visions for the future may far outrun those which we can actually attain in practice, we have not been cognizant enough of the innumerable research methods to pursue well-conceived investigations and have been almost negligent in our responsibility to

improve the over-all competence of our own profession. I feel that the time is long past due when we each must realize that something must be done to overcome our one outstanding shortcoming in pharmacy. This one common problem is relevant to the now very prominent question of the adequacy of our profession, both in talent and in numbers, to the needs of the time and of the future of pharmacy."

"I think that the caliber of graduate students could be improved by teaching the student to think for himself as an undergraduate so as to determine better his ability to complete graduate work. Also it is important that the graduate work be so arranged that the student must 'prove himself' early and courses made tough enough so that poor students can be flunked out. I think that there is too much hesitation in flunking out a person once he is in graduate school even though he doesn't produce. As a result of this policy you find a number of 'hangers on'

who are eventually awarded degrees simply to get rid of them.

"The mere possession of a Ph.D. degree does not make a person fit to teach. There seems to be little or no provision for that person who is getting his degree as a prerequisite to college teaching. Granted most education courses offered by the school of education are worthless, I think a few could be found which would be of help to the teacher in a professional college. This should not detract in any way from the original research and the course work needed for the professional degree.

"As far as the choice of the 'specialist' versus the 'diversified' pharmacy student in graduate school, there seems to be room and need for both. The role of the pharmacist in industry and in teaching is so varied and unpredictable that often it is difficult to specialize. If a student is going to specialize (physical chemistry, chemistry, kinetics), then I believe that he could obtain better training in another school besides pharmacy."

REPORT OF THE COMMITTEE ON PREDICTIVE TESTS

Last year the Executive Committee asked this group to reconsider its objectives. At a subsequent meeting held in Indianapolis this Committee discussed the problem of predictive testing. This report will review (a) pros and cons of a national standard test battery; (b) results of a questionnaire circulated to learn of presently used programs; and (c) tentative recommendations concerning future procedures.

The following objections have been raised against having a national battery of predictive tests: (a) expense in the development and administration of the battery; (b) lack of a proper survey and evaluation of tests presently used in various schools; (c) questions as to whether implementation of the tests can be standardized; and (d) problems encountered in "educating" colleges to adopt and use a test battery.

The following have been advanced in favor of developing a national standard predictive test battery: (a) advisability of having national norms, including thirteen and fourteen year norms; (b) elimination of numerous tests measuring somewhat different abilities; (c) ease of administration of a standard battery; (d) ultimate improvement of professional courses; (e) better standard of course work that may result; and (f) prepara-

tion for the problems of expected increases in enrollment.

The Committee prepared a questionnaire primarily to evaluate the testing programs presently used in member colleges. The questionnaire was developed, with the assistance of educational consultants in the four colleges represented by committee members, and circulated in the fall of 1959. Fifty-four replies were received, and most of them were fairly complete. The following information was gleaned from the questionnaires returned:

1. Nearly all schools replying test first-year students, and about half the schools test transfer students.
2. Slightly over half of the schools responding have had a testing program in effect for ten or more years.
3. Almost all the schools have the aid of an educational consultant, although the most frequent type of assistance provided was that of scoring.
4. The cost of the testing program per student varied from fifty cents to fifteen dollars, with most of the schools making no charge to the student.
5. Only ten of those schools replying indicated a testing program solely for pharmacy students.

6. More than half of the schools responding had evidence of reliability and validity of results obtained by their testing programs based on various types of correlation and evaluation studies, and others claimed such studies were in progress.

7. Two schools indicated that their testing program was the only criterion used for admission. Other criteria given by various colleges included: the high school average (being used by twenty-eight of the fifty-four schools); the recommendation of the principal (by fourteen); and the College Boards (by twelve schools).

8. Ten schools require an interview prior to admission, but only five of these have "professionally trained" interviewers. The number of people interviewing each applicant varied from one to three or more, with the tendency in favor of one interviewer. The average length of the session varied from ten to sixty minutes, with most of the interviews being conducted singly.

9. Four colleges replied that less than 50 per cent of the students beginning the freshman year complete it, but the majority of the schools find that 70 per cent or more complete the sophomore year successfully.

10. Major causes of attrition varied considerably according to the replies, but most common cause was "scholastic." Eighteen colleges attributed this cause to account for 18 to 90 per cent of attrition. Nine schools answered that finances were a principal cause of attrition, and four said that outside work was a principal cause.

The appended table summarizes testing programs, according to norms and purposes. The Committee was impressed by the great

variation in testing programs presently utilized (certainly, they could not be measuring exactly the same abilities and levels of ability). Also impressive was the fact that a high percentage of the colleges have studied, or are studying, the reliability of their programs. Comments appended to our questionnaire, as returned by the various schools, suggest that many of the schools are reasonably satisfied with their present testing programs. The Committee suggests that the requirement of a personal interview may not be meaningful at most schools, because of the fact that our member faculties boast few trained interviewers.

There is evidence that many of the schools and colleges are in doubt as to what will happen to their enrollments in the next few years. Thus the Committee has the impression that these factors indicate there has been a considerable decrease in enthusiasm for initiation of a battery of predictive tests, as compared to a period of four or five years ago.

It is therefore recommended that this Committee undertake a more specific study of programs in current use at various colleges and attempt to determine whether the expense of a special battery can be avoided without substantial loss of the anticipated values to be gained.

It is further recommended that future developments be closely observed by the officers and Executive Committee inasmuch as it will take approximately three years to prepare and validate suitable tests, should the need for such become apparent. Nothing in these comments is to be construed as negating the arguments in favor of a nationally approved predictive testing battery. There is no doubt as to the desirability and value of such a series.

K. L. Kaufman, Chairman

Addendum
Summary of Testing Programs

TESTS	NORMS			PURPOSES			
	National	Own	Other (What?)	Admission Selection	Course Placement	Achievement Measurement	Other
C.E.E.B.	9	5		14	3	2	Counseling
Coll. Classif. Tests, SRA	2						Advising
College Placement, SRA	1						
A.C.E. Several, most Form: commonly—1948	11	11		5	6	3	Counseling
S.C.A.T.	8	3		1	4	2	Counseling
I.T.E.D.	3	1		1		1	
Otis	5	1	1	1			Counseling
O. St. Psych.							
Form: Four used	10	3		5			Counseling
Strong	10	1		2			Interest
Kuder	11						Interest
F.A.C.T.							
Which tests?	3						
Graduate Record Ex.							
Aptitude Tests	3	3		4		3	Predict.
Area Tests	5	2		1		4	
Advanced Tests	2					3	
Specific Tests	1	1		1		1	
Others (please name)							
More than 30 named							
Most common: CQT—4							
& Coop Eng.—8							

REPORT OF THE COMMITTEE ON PROBLEMS AND PLANS

We are presenting, in abstract form, the results of our committee's efforts during the past year. Information was made available to each member regarding the purpose and responsibilities of this AACP committee. Each member was asked to participate by submitting a paper or papers on topics of timely importance. Individual papers will be submitted to our journal for subsequent publication.

The Trimester Plan

In view of two member colleges offering a "Trimester Plan" of pharmaceutical education in the eastern half of the United States, it was believed of importance to determine the thinking of the western part of the country.

Accordingly, the following questionnaire, Table I, was circulated to member colleges in Districts 7 and 8. The answers received on a percentage basis are given in Table II.

The following comments are typical of the thinking of the staff members to whom the questionnaire was circulated:

"Trimester program offers no summer school for making up scholastic deficiencies. I doubt whether schools with a trimester plan will acquire enough faculty to operate efficiently."

"Whether the third quarter is mandatory or elective makes a great deal of difference."

"Utilization of faculty on a yearly basis in place of nine or ten months is a marked advantage."

"I find little reason to believe that there can be any general acceptance of the accelerated programs in any college of pharmacy where courses must be taken in divisions of the university outside the college."

"As I see it, the main advantage to the trimester program would be to handle the increased enrollment with the present physical facilities. To be effective, most courses would have to be offered almost every term. The greatest disadvantage would be the additional faculty needed to maintain an effective trimester program."

"In my opinion this program is devised as an attempt, by those schools having difficulty in obtaining a large student body, to build up quantity at the sacrifice of quality."

TABLE I
AACP Committee on Problems and Plans
Trimester-Program Questionnaire

Compared to the traditional two-semester or three-quarter programs, do you think the trimester program offers

- A. Marked advantages
- B. Marked disadvantages
- C. Little or no difference
- D. No opinion

relative to (insert key letter):

- _____ 1. Recruitment of *more* students into pharmacy.
- _____ 2. Recruitment of *superior* students into pharmacy.
- _____ 3. Efficiency or learning capacity of students.
- _____ 4. Efficiency or teaching capacity of faculty.
- _____ 5. Efficient utilization of physical facilities.
- _____ 6. Scholastic mortality of students.
- _____ 7. Mortality through transfers to other fields of study.
- _____ 8. Maturity of graduates.
- _____ 9. Obtaining of practical experience prior to licensure.
- _____ 10. Faculty participation in research, professional meetings, and other non-teaching activities.
- _____ 11. Multiple times for beginning or dropping out of school.
- _____ 12. Scheduling of courses in proper sequence.
- _____ 13. Multiple graduation times.
- _____ 14. Increased output of graduates.

TABLE II
Percentage Answers to Questions From
Trimester-Program Questionnaire

Question	A	B	C	D
1.	40.6	4.7	45.3	9.4
2.	3.0	17.9	73.1	6.0
3.	10.6	39.4	45.5	4.5
4.	9.0	58.2	32.8	0.0
5.	88.1	1.5	9.0	1.5
6.	4.5	25.4	62.7	7.5
7.	8.8	11.8	69.1	10.3
8.	0.0	34.3	62.7	3.0
9.	1.5	75.8	19.7	3.0
10.	4.5	78.8	15.2	1.5
11.	37.9	19.7	31.8	10.6
12.	6.1	62.1	28.8	3.0
13.	25.0	27.9	39.7	7.4
14.	45.5	7.6	40.9	6.1

The Six-year Curriculum and Practical Experience

A dean of a member college in a recent article stated, "Many educators feel, as I do, that the way is clear, in the not-too-distant future, to a six-year curriculum for the degree of Doctor of Pharmacy. Only this calibre of education will provide the preparation the practicing pharmacist will need for leadership in an increasingly complex social and economic life."

In view of the fact that some states now require that a part of the required experience be completed after graduation, I recommend that our Association appoint a committee composed of educators, practicing pharmacists, state board members and industrial representatives to study and make recommendations regarding the feasibility of incorporating the year of required practical experience into the six-year program of the near future.

Practical Experience in Relation to the Five-year Program

A committee member makes the following statement regarding this problem: "It is my feeling that the most pressing problem in pharmacy today is the status of the practical experience regulation for licensure, especially in view of the new five-year curriculum. This entire matter needs extensive study, since it will in effect require from five and one-half to six years for a prospective pharmacist to become licensed."

"The most disturbing feature of the entire program is that in the past a four-year graduate and, unless something is done in the future, a five-year graduate, had no legal status whatsoever upon receipt of his degree from an accredited college. In fact such a graduate can assume no more responsibility in a drug store, under most state laws, than a delivery boy, porter, cosmetician or fountain girl."

"It is my expressed opinion that a concerted effort should be made so that the practical experience could be obtained by the student during the summer vacations of his professional education, under the supervision of the school, and then that, upon completion of this training, coupled with his degree, he be given some sort of legal status."

Employment of Personnel with the Doctor of Pharmacy Degree for Teaching Purposes

Considerable interest has been shown by committee members regarding the employment of staff members with the Doctor of Pharmacy degree. The following statements

are indicative of the replies received from papers prepared for future publications.

"... it is a very popular point of agreement and disagreement wherever members of the profession congregate."

Time (March 21, 1960): "Debatable as the notion may be, a doctorate is considered a desirable qualification for college teaching. In the next decade colleges will need at least 27,000 new teachers a year. The present total Ph.D. output per year is 9,000 and fewer than half of these become college teachers."

"It is my opinion that colleges of pharmacy should not employ personnel for teaching purposes who have the Doctor of Pharmacy degree only."

"In my opinion the people graduating from some of our schools that are now offering a six-year program and a Pharm.D. degree should not be considered for teaching. This degree is not to be considered the same as a graduate academic degree, but only as a professional degree since these people do not take graduate courses or do individual research."

"I believe this Committee and the American Association of Colleges of Pharmacy should take a very definite stand against any influx of personnel from a six-year program with the Pharm.D. degree going into teaching unless they go on to graduate school and obtain the Doctor of Philosophy degree."

"Surely no school would want to have masquerading under the 'doctor' title, any individual lacking adequate graduate training in pharmacy, pharmaceutical chemistry, pharmacology, or any of the other specialized areas presently being taught in pharmacy colleges."

"The Doctor of Pharmacy degree is a professional degree, not a scientific degree. It has been instituted by at least two schools for the purpose of indicating that the pharmacist has completed a six- rather than a four-year program of instruction. The degree has not been officially recognized for adoption by the Association or by schools in general."

"I am very much opposed to the employment of personnel with the Doctor of Pharmacy degree for teaching purposes, and especially so if such persons are placed at the professorial level."

"Our faculty has discussed this topic and we are agreed that these individuals *should not* be permitted to teach on a full-time basis."

"I have no objection to the employment of these people to teach pharmacy, but I do feel that their services should be limited."

"These persons should not be given the additional responsibilities one would give even an individual holding a Master's degree."

"I believe the schools and colleges of pharmacy should continue to focus their 'employment eyes' on the prospective teacher with the Ph.D. degree."

"... my opinion is that the Doctor of Pharmacy degree is not adequate prepara-

tion for most teaching positions in modern colleges of pharmacy."

"I do not care to express an opinion concerning the policy of institutions which have started the practice of hiring such persons for teaching. I am certain that the problems created by such practice will soon cause those responsible to give serious thought to the policy instituted."

Clifton E. Miller, Chairman

REPORT OF THE COMMITTEE ON RECRUITMENT AIDS

Activities of the Committee since the time of its 1959 report are listed, followed by the status of various projects as of the current date.

August 16, 1959

A meeting of the Committee was held in Cincinnati to discuss matters to be referred to the new Committee for 1959-60. Status of negotiations with Sterling Movies re purchase of additional prints of recruitment films, renovation of existing prints, and increased promotional activity for the films was discussed, and Secretary Webster was advised in accordance with decisions reached. Tentative plans were made to have a pharmacy recruitment display at the 1960 meeting of the National Science Teachers Association in Kansas City.

October 1, 1959

A questionnaire soliciting data for the annual report on graduate enrollment data and graduate study in member colleges was mailed (see item 1 below).

November 7, 1959

A meeting of the Committee was held in Chicago with Secretary Apple of the American Pharmaceutical Association to discuss the establishment of a centralized pharmacy recruitment agency in the A.Ph.A. headquarters, in accordance with the resolution originating with this Committee, passed by the AACP, and adopted by the A.Ph.A. House of Delegates at the 1959 meetings in Cincinnati. Decision was reached to recommend to the Executive Committee that "the American Association of Colleges of Pharmacy, with the consent of the American Foundation for Pharmaceutical Education, will turn over to the American Pharmaceutical Association the film distribution and brochure, *Shall I Study Pharmacy*, programs including the existing and committed funds for the support of these programs if and when the

American Pharmaceutical Association expresses its willingness to continue these programs on an active basis and establishes a recruitment agency in the A.Ph.A. headquarters to develop and administer an over-all coordinated recruitment program in which the AACP maintains active participation. It is understood that the A.Ph.A. will create an Advisory Commission on Careers in Pharmacy to include representation from all segments of pharmacy." Plans were made at this meeting for the A.Ph.A. to cooperate in preparation of the pharmacy recruitment display at the NSTA meeting in Kansas City. Consensus was reached that pharmacy should be more prominent in the Science Fair program in high schools as an excellent recruitment vehicle, that this project should be developed under the A.Ph.A. recruitment agency, and that assistance from the AACP should be provided the A.Ph.A. in the preparation of suggested projects, source materials and information for distribution to high school students. Page proofs for the fourth edition of *Shall I Study Pharmacy* were corrected at this meeting (see item 2 below).

November 9, 1959

The Chairman presented the Committee recommendation of November 7 to the AACP Executive Committee at its interim meeting, where it was approved and adopted in the form of a motion.

March 11, 1960

On appointment by President Bliven, the Chairman represented the AACP at the first meeting of the A.Ph.A. activated National Advisory Commission on Careers in Pharmacy in Washington, D.C. and reported on the recruitment programs and activities of the AACP.

March 29-April 2, 1960

A pharmacy recruitment exhibit was presented at the annual meeting of the National

Science Teachers Association in Kansas City, where it was viewed by several hundred teachers in attendance. The Committee wishes to express its thanks to Mr. George B. Griffenhagen of the A.Ph.A. and to Mr. Charles D. Doerr and Mr. Raymond J. Zettell of McKesson & Robbins, Inc. for the development and preparation of the exhibit and to Dean Leslie L. Eisenbrandt and his faculty of the School of Pharmacy, University of Kansas City, for supervising its installation and staffing the booth. The exhibit was also displayed at the National Science Fair finals in Indianapolis in May, and the A.Ph.A. plans to make use of it for similar meetings in the future.

May 7, 1960

Ownership of all stocks of *Shall I Study Pharmacy*, the *Pharmacy Study Portfolio*, master prints and copies of the films, *Design for Life* and *Time for Tomorrow*, the *Pharmacy Program of Study* film strip and the funds remaining in the account of the Committee on Recruitment Aids under the grant from the AFPE were transferred to the American Pharmaceutical Association.

Status of the various continuing projects of the Committee is as follows:

1. Graduate Enrollment Data and Graduate Study in Member Colleges. The fifth annual report was mailed to deans, librarians, heads of departments and other key faculty members in member colleges. Additional copies of the report have been supplied by the Secretary's office upon request. A summary of the report appeared in the *Am. J. Pharm. Ed.*, Winter, 1960 issue.

2. *Shall I Study Pharmacy*. About 250,000 copies were distributed from November, 1953, to the fall of 1959, when the third edition was depleted. The new fourth edition, revised in keeping with the new educational requirements in pharmacy, became available in the fall of 1959, and about 23,000 copies of it had been distributed through May, 1960.

3. *Design for Life*. Sponsored distribution of color prints to school and lay audiences and of black and white prints for television use has been continued with Sterling Movies. As of March 31, 1960, they report a total of 8,761 cumulative showings of the color prints to an audience estimated at 455,572 and 351 telecasts to an audience estimated at 14 million. Reports of audience reception continue to be favorable.

4. *Time for Tomorrow*. Sponsored distribution has resulted, as of March 31, 1960, in a total of 9,718 cumulative showings of the color prints to an estimated audience of

505,336 and 370 telecasts to an audience estimated at 15 million. Reports of audience reception of this film also continue to be favorable.

Although they are not projects of the Committee, this report should note the contributions of others to recruitment aids during the past year. Among these are the following:

See Your Future in Pharmacy, an attractive, well-written booklet produced by the American Pharmaceutical Association for distribution in response to requests for information and also available in quantity to member colleges at \$5 per 100 or \$40 per 1,000.

Your Career Opportunities in Pharmacy, revised by Chas. Pfizer & Co., after the first edition had been distributed in a total of 450,000 copies in its first two years.

Should You Be A Pharmacist, revised by the New York Life Insurance Company.

With the primary responsibility for recruitment, along with the AACP's recruitment film and brochure programs, having been assumed by the American Pharmaceutical Association, the purposes for which the Committee on Recruitment Aids was formed appear to have been largely achieved. With the activation of the National Advisory Commission on Careers in Pharmacy the AACP has seen the acknowledgment and acceptance of its contention that recruitment should be the responsibility of the entire profession and industry. This Association is now in much the same position with respect to recruitment that it was in respect to accreditation at the time of the formation of the American Council on Pharmaceutical Education in 1932.

The question then naturally arises as to the necessity of continuing the Committee on Recruitment Aids. The AACP will have representation in and liaison with the A.Ph.A. in the National Advisory Commission on Careers in Pharmacy through its designated representatives; assistance to the A.Ph.A. in future revisions of *Shall I Study Pharmacy* as well as other recruitment aids can be furnished either through an *ad hoc* committee appointed for that purpose or through an individual; the remaining function of the Committee, publication of the annual report on graduate enrollment and graduate study in member colleges, could be taken over by another appropriate committee.

There is one additional task, however, which probably comes within the scope of this Committee's functions. Some group in pharmaceutical education should be giving attention to the support of the Science Fair program by pharmacy and the exploitation

of this interest as a dignified form of recruitment for pharmacy. The A.Ph.A. has become active in the National Science Fair, but there is need for pharmacy to get into the picture at the local, area and state levels. One thing that needs to be done immediately is the preparation of a booklet containing pharmaceutical projects for high school science students, similar to those that have been made available by dentistry and some of the other health professions. The publication and distribution of such a booklet are the responsibility of the A.Ph.A., but the copy for it, including descriptions of projects, instructions, sources of materials, etc., will have to be prepared by people in pharmaceutical education. The AACP is the logical organization to take the lead here, and this Commit-

tee would seem to be the appropriate one for this assignment. With that thought in mind the Committee

Recommends, that the Committee on Recruitment Aids be requested to develop and prepare copy for a booklet of pharmaceutical projects for high school science students and that the membership of the Committee be selected in accordance with this purpose.

The Chairman gratefully acknowledges the cooperation of the Committee members (Mr. Charles D. Doerr, Dean George L. Webster, Mr. George Weiler, Dean Stephen Wilson) and the continued interest and support of Secretary W. Paul Briggs and the Directors of the American Foundation for Pharmaceutical Education.

Lloyd M. Parks, Chairman

REPORT OF THE COMMITTEE ON STATUS OF PHARMACISTS IN THE GOVERNMENT SERVICE

Your Committee on Status of Pharmacists in the Government Service is, as you will recall, a part of a larger committee which consists of representatives from our Association, the American Pharmaceutical Association, the National Association of Retail Drug-gists, and the National Association of Boards of Pharmacy. The AACP Committee functions as an active part of this larger committee as well as initiating some activities which we believe to be particularly applicable to our Association.

The preparation of a brochure concerning the opportunities for pharmacists in the government services was omitted this year. However, the attention of deans of the schools and colleges of pharmacy was called to an article on the subject written by Mr. F. Royce Franzoni, chairman of the over-all committee, and published in the July-August 1959 number of *Tile and Till*.

During the past few years this Committee has carried on rather extensive correspondence with the proper officers in the Air Force, Army and Navy. Perhaps these expressions of opinions, which included approval as well as disapproval of the policies being followed by each of the Armed Services as they were related to pharmacy and pharmacists, resulted in some benefits. This year it was decided to enlist the aid of our

colleagues in the field of pharmaceutical education. Accordingly we wrote to each school on February 1, 1960, as follows: "Who is filling the prescriptions in the government services in your state? Do you have one or more armed services installations or a Veterans Administration Hospital? Would you or a pharmacist member of your faculty visit such installations to observe who is performing the pharmacist's duties? Your committee has arrived at the conclusion that more can be done 'in the grass roots' than in headquarters, Washington, D. C. We need your help in improving the status of pharmacists in government service. Help us to see exactly what goes on in the armed services, for example, and then let the folks in Washington hear directly from you. Your committee wants to hear from you too."

The response to this request was very good. Fifteen schools replied and furnished some information or outlined a procedure which they would follow in the matter. One or two suggested that we should contact the secretaries of the various boards of pharmacy or of the state associations. These are excellent suggestions, and they were passed on to the larger committee for action. It was our purpose, however, to create some activity within the faculty members and to let the various hospital personnel know of our

concern about the proper handling of drugs by pharmacists.

The above-mentioned replies verified the fact that pharmacy services in Public Health Service and Veterans Administration Hospitals are furnished by pharmacists and might be rated as excellent. Many of the armed services installations were reported to be properly staffed with pharmacists, but many of them are enlisted men. Instances were reported of the use of pharmacy technicians, as was to be expected. It is our hope that educators in pharmacy will continue to develop a close relationship with the various hospitals that are operated by governmental agencies. Your Committee will continue to be ready to render assistance to the proper authorities in the Veterans Administration and Public Health Service in the maintenance of their present high standards.

It is well to call your attention to the fact that there are a pharmacy consultant in the office of the Surgeon General of the Air Force, a pharmacy consultant in the office of the Surgeon General of the Army and a Head of the Pharmacy Section, Bureau of Medicine and Surgery of the Navy, who acts in the capacity of pharmacy consultant. The officers presently assigned to these positions are career officers who are dedicated to the advancement of pharmacy in their respective branches of the armed services. They do need the active support of organized pharmacy.

It is with regret that we report that the Air Force reactivated its school for pharmacy specialists. During the fiscal year of 1960 three classes were conducted, in each of which there were twenty-five in attendance. It is planned to conduct four classes of fifty each during the coming year. The reason given by the Air Force for this step is that not enough pharmacists will enlist and this has resulted in an understaffing of Air Force pharmacies. It is the opinion of this committee that the Air Force could better meet its shortage by offering commissions to pharmacists with adequate training.

The Navy continues to train pharmacy technicians in a course of thirty-two weeks duration. The number in attendance during the past year was reported as being "not available." The Army continues to oppose the offering of a technicians' course, but in the words of the pharmacy consultant we "are fast running out of sufficient graduate pharmacists to staff our facilities." The Army does plan to place a few enlisted men in the Navy course to train them as pharmacy assistants. Again, it is possible that

the opportunity for a commission would help alleviate their shortage.

Pharmacists having the necessary qualifications still have opportunities for a commission in the reserve components of the Air Force and the Navy. Effective 1 July 1960 direct commissions for pharmacists in the Medical Service Corps of the Army will no longer be available. The Medical Service Corps expects to fill the authorized spaces with graduate pharmacists who have completed the advanced ROTC program. It was reported that direct commissions resulted in a few ROTC graduates being assigned to combat or other technical services instead of the MSC. There is an opportunity for an enlisted man, whether drafted or voluntary, to obtain a reserve commission through officer candidate school, but this is not what is wanted for pharmacists.

No action has been taken by Congress to authorize any rank above that of Colonel in the Medical Service Corps. It is hoped that each of you here will actively encourage and support such legislative measures as may be necessary to give pharmacy its proper recognition in these higher grades. This cannot be obtained by a resolution alone. Write to your congressmen and let them know how you think in this matter.

Resolutions

1. *Whereas*, there continues to be a shortage of pharmacists in the Air Force, Army, and Navy, and,

Whereas, these services do not have authorized allocations for officer appointments in order that the required number of pharmacists can be obtained, therefore,

Be it resolved, that this Association renew its efforts to obtain the required legislation for the appointment of pharmacists as commissioned officers in the Medical Service Corps of the respective services as required to meet the needs for pharmacists.

2. *Whereas*, pharmacists could be of assistance to the respective Medical Service Corps of the armed services when given an opportunity to serve in an advisory capacity, therefore,

Be it resolved, that the American Association of Colleges of Pharmacy endorse the appointment of an Advisory Committee to the Medical Service Corps of the Air Force, the Army, and the Navy and refer this resolution to the House of Delegates of the American Pharmaceutical Association for action.

Lloyd E. Harris, Chairman

SPECIAL COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON CONTINUATION STUDIES

Since the Committee on Continuation Studies was created some five years ago, it is interesting to note that considerable progress has been made in this important function of our member colleges. It is apparent that the deans took to heart a recommendation made by the committee last year that copies of conference programs be sent to the member colleges. Your committee gave consideration to making a detailed analysis of programs presented from the period August, 1959, to June, 1960. However, this time-consuming job was not attempted, and the deans were spared one questionnaire from the usual avalanche received in May and June. We would like your opinion as to the usefulness of such a survey. The survey made by Arthur G. Zupko in 1956 and this Committee's report of 1959 which analyzed the various programs offered by the member colleges are referred to. Should we request an elaboration in this area in our annual progress report to the American Council on Pharmaceutical Education? Or are copies of programs and press reports such as A.Ph.A.'s Operation Seminar supplying sufficient information to our member colleges?

Although it is the feeling of your Committee that optimum benefits cannot be derived from a panel discussion at this annual meeting and that such a panel may be a rehash, it is hoped that this informal presentation of the Committee's report will have good participation and that the exchange of ideas will serve as a stimulus to each of us.

It is regretful that the Association did not go on record last year as favoring the support of H. R. 357 and S. 648, known as the General University Extension Bill. However, in spite of this oversight, your Committee was asked to prepare testimony to be presented to the Subcommittee on Special Education of the Committee on Labor and Education. It was the pleasure of your chairman to make this presentation on March 17, 1960. To our knowledge this is the first time the American Association of Colleges of Pharmacy has been asked to testify before

a House of Representatives Committee. Your chairman enjoyed a very favorable question and answer session, and you are referred to the printed copy of the testimony, which is available from the Committee on Labor and Education. A copy of the formal testimony was mailed to each of the member schools. This has not been duplicated for distribution here, but is presented as an addendum to this report for what use the editor of the *Journal* may wish to make of it. (*Editor's Note: The copy of the formal testimony referred to is available on loan from the office of the editor.*)

It is the recommendation of this committee that the Association pass a resolution favoring H. R. 357 and S. 648, and that a copy of this resolution be sent to chairmen of both the House and Senate Committees. According to the latest report, this Bill has been considered by the Sub-committee of the House and although its chances for passage during the current session appear to be slight, the colleges are asked to lend their support and do anything they can to activate its immediate passage.

No count has been made of the number of conferences sponsored by our schools of pharmacy during the past year; however, it is apparent from the programs and press releases that more and better conferences are being held. It is realized, however, that only a small portion of the 110,000 practicing pharmacists are reached. Some of our schools are making it a practice to take the programs to the locale of the practicing pharmacist. Some are preparing special bulletins. Some are making use of television. The use of this important medium deserves considerable study.

It is pleasing to the Committee to note that several of our members have been able to obtain grants to assist them in their continuing education programs. Several years ago it was suggested that the Committee prepare a list where funds could be obtained. Such a list would be extensive, and the Committee again recommends the publication en-

titled *American Foundations and Their Fields* by Wilmer Shields Rich of the American Foundation Information Service, sponsored by Raymond Rich Associates, and Marts & Luncy, Inc., 860 Broadway, New York, N. Y., as a source of reference for our member colleges.

The Committee would like to point out again the need for those individuals who are actively engaged in the work of continuing education to meet together, not only to discuss ways and means to reach our practicing pharmacists, but to study the methods employed in other disciplines which have had long experience with programs in continuing education in their areas. Nationally recognized authorities would be of real assistance to us. The Committee feels that, although the deans are vitally interested in this area, if such a conference or workshop is held it should be attended by those actually engaged in the "field" work. It would be the hope that such a conference would furnish the member colleges with information on which they could more intelligently plan their own programs.

Recommendations

The Committee recommends that:

1. The American Association of Colleges of Pharmacy in convention assembled adopt the following resolution:

Whereas, results of pharmaceutical research and experimentation should be made immediately available to our practitioners if human suffering is to be alleviated, and,

Whereas, the rapid development of new pharmaceutical products and of new ways of using drugs requires a vigorous and comprehensive program of continuing education, and,

Whereas, such a program is essential if the health and welfare of our citizens are to be served, and,

Whereas, limited funds prevent our schools of pharmacy from engaging in an effective program of continuing education for a very important public including pharmacists, physicians, veterinarians, dentists and other public health personnel, therefore,

Be it resolved, that the American Association of Colleges of Pharmacy heartily endorse Bill H. R. 357 and S. 648, known as the University Extension Bill, and that a copy of this action be sent to the chairman of the proper committee in both the House and the U. S. Senate.

2. Member schools and colleges be encouraged to continue to build their program in the important area of continuing education and strive to find more effective means of reaching our public.

3. The deans of the colleges and those connected with the continuing education program continue to inform member schools, the professional and the lay press as to their activities.

4. The AACP express its appreciation to Representative Elliott, chairman of the Subcommittee on Special Education of the Committee on Labor and Education, for the opportunity to appear in the behalf of the University Extension Bill, H. R. 357.

5. The AACP express its appreciation to the American Pharmaceutical Association and to Ray Dauphinais for the support given the University Extension Bill, H. R. 357 and S. 648.

Kenneth L. Waters, Chairman

REPORT OF THE COMMITTEE ON HOSPITAL PHARMACY EDUCATION

The Committee on Hospital Pharmacy Education was continued last year for the purpose of "implementing the establishment of a committee on hospital pharmacy education to work as a joint committee with a corresponding committee of the ASHP."

Your Committee did meet in Washington on March 26, 1960, and discussed this implementation and is recommending administrative regulations for a joint committee on hospital pharmacy education composed of representatives from the AACP and ASHP. These regulations parallel regulations now in force for the American Hospital Association

and the American Society of Hospital Pharmacists.

After agreeing on the terms for a committee, the temporary joint committee elected Warren E. Weaver as chairman pro-tem and Mr. Herbert Flack of Jefferson Hospital as secretary.

The joint committee, as temporarily constituted, exchanged views on current problems relating to the education and training of hospital pharmacists. Among these were:

1. Hospital experience and broad requirements for licensure.
2. Fifth and sixth years of pharmacy cur-

riculum as it pertains to hospital pharmacy.

3. Estimates of needs for hospital pharmacists.

4. Educational pathways now available to those seeking a career in hospital pharmacy, including master's degrees, and doctoral degrees.

5. Education needs of hospital pharmacists which are common to all pharmacy students.

There was an obvious overlap in the discussions that took place at this meeting and the work of other committees, especially the Curriculum Committee. It was felt that the Curriculum Committee would provide data on the five-year programs that would be especially helpful in providing information on courses that colleges will offer for those students seeking a career in hospital pharmacy.

It was very evident that the discussion period provided several topics that would be on the agenda of meetings of this group subsequent to approval of the Administrative Regulations by the respective organizations.

Warren E. Weaver, Chairman

Addendum

ADMINISTRATIVE REGULATIONS FOR JOINT COMMITTEE OF AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY AMERICAN SOCIETY OF HOSPITAL PHARMACISTS

Approved by

I NAME

Joint Committee of the American Association of Colleges of Pharmacy and American Society of Hospital Pharmacists.

II PURPOSES AND OBJECTIVES

The Joint Committee shall be an advisory committee to the parent organizations. It shall be the intention of the Joint Committee to discuss and make recommendations to resolve important problems of mutual interest in hospital education and training.

III MEMBERSHIP

A) The appointing organizations shall consist of the American Association of Colleges of Pharmacy and the American Society of Hospital Pharmacists.

B) The appointed membership shall consist of four representatives of each appointing organization.

C) Ex officio membership shall consist of the president of the American Association of Colleges of Pharmacy, the president of the American Society of Hospital Pharmacists and representatives of the staff de-

signed by each organization. By agreement of the chairman and secretary of the Joint Committee, other individuals may be invited to attend the meetings.

IV TERMS OF APPOINTMENT

Each representative shall be appointed for a period of two years. The appointment year shall be the association year of each appointing organization. Such appointments shall be staggered so that two representatives of each appointing organization shall terminate their appointment each year. Vacancies shall be filled by the respective appointing organizations.

V VOTING PRIVILEGES AND QUORUM

Only appointed members present shall have a vote, except that in the absence of an appointed member a designated ex officio member of the appointing group shall have power to vote.

A quorum shall consist of five voting members, provided both appointing organizations are represented by at least two representatives.

VI OFFICERS

There shall be a chairman, a vice chairman and a secretary of the Joint Committee.

The chairman shall be elected for a one-year term at the first meeting of the year, which shall be considered the annual meeting, and may be re-elected for one additional term. The chairman shall take office immediately. He shall preside at meetings and shall perform the usual functions of chairmen of similar organizations.

There shall be a vice chairman who shall have the duties generally assigned to vice chairmen and who shall function only in the absence of the chairman. He shall represent the same organization as the chairman.

The secretary shall be elected for a two-year term. The secretary may be a member of the Joint Committee or a member of the staff of one of the parent organizations. The secretary shall perform the functions customary for that position and shall be responsible for the minutes of each meeting, said minutes to be furnished the member organizations within three weeks after each meeting.

VII MEETINGS

There shall be at least one regular meeting annually. Special meetings may be called by the chairman. The A.Ph.A. year is to be operating year for purposes of meetings. Attendance at meetings shall be limited to appointed members, ex officio members and other individuals who may be invited by the

chairman to participate in the program, or whose presence may be requested by either of the parent organizations.

VIII COMMITTEES

There shall be an Executive Committee of two members consisting of the chairman and the secretary. All actions of the Executive Committee shall be subject to the approval of the Joint Committee. Subcommittees may be appointed by the chairman, reporting to the Joint Committee, and each organization shall be equally represented on such subcommittees. The agenda for meetings shall be prepared by this committee.

IX FINANCING

The expenses of representatives to the Joint Committee, ex officio members, and staff members shall be the responsibility of the respective parent organizations. Other expenses, such as those for necessary clerical service or meeting space not provided by a member organization, shall be divided equally between the parent organizations. The organization whose representative is secretary shall act as host for purposes of arranging for meetings, and related services and accommodations, and shall present a statement to the other organization, subsequent to each meeting, for the latter's share of any such agreed expenses, said statement to be settled within two months of its submission.

X RELATIONSHIP OF JOINT COMMITTEE TO PARENT ORGANIZATIONS

The Joint Committee shall be an advisory committee to the parent organizations. It

shall function primarily as a means of constructive exchange of opinions. Recommendations of the Joint Committee shall be advisory to, and not mandatory upon, the parent organizations. The Joint Committee may originate actions for consideration by, or may receive actions for consideration from, the parent organizations.

When approved in principle by both parent organizations, the work and conclusions of the Joint Committee may be transmitted to the membership of respective organizations and other interested parties.

Items approved unanimously by the Joint Committee and considered suitable for announcement by an executive officer of both parent organizations may be released by the Joint Committee to the public through professional and other media.

XI APPROVAL

These Administrative Regulations shall become effective upon approval by the Joint Committee and the parent organizations.

(Editor's Note: The Executive Committee at the Interim Meeting held in Chicago, November 9-11, 1960, approved the adoption of these Administrative Regulations, with one change. Section III C was changed to read, "Ex officio membership shall consist of the president of the American Association of Colleges of Pharmacy and the president of the American Society of Hospital Pharmacists. By agreement of the chairman and secretary of the Joint Committee, other individuals may be invited to attend the meetings.")

REPORT OF THE AACP-NABP JOINT COMMITTEE TO REDEFINE THE TERM "PHARMACY"

This Committee was appointed by the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy for the purpose of redefining the term "pharmacy" in a manner consistent with its present-day meaning and including its important distributive functions. It was also suggested that the new definition should be so conceived and worded that it would be applicable for inclusion in various laws regulating and governing the practice of pharmacy.

The Joint Committee through its chairman submitted a partial report before both the American Association of Colleges of Phar-

macy and the National Association of Boards of Pharmacy at their August meetings held last year in Cincinnati. In this report, a somewhat comprehensive definition of pharmacy was suggested, such definition being one that would be suitable for textbooks and reference purposes. The report also discussed the philosophy behind the several terms included in the definition and the reasons used by the Committee in arriving at the wording which it suggested.

At that time, the Committee deferred submitting a definition for the practice of pharmacy which might be suitable for legislative inclusion, feeling that this was such an im-

portant matter that it required further study.

Since the August, 1959 meeting, the Committee has had the assistance of an attorney, Mr. Henry H. Brylawski, who was in the process of preparing a new Pharmacy Act for the District of Columbia. Mr. Brylawski was supplied the comprehensive definition of pharmacy prepared by this Committee, and, from it, he proceeded to prepare a more succinct definition for the "practice of pharmacy" suitable for legislative inclusion.

While the Committee does not wish to become involved in a discussion of the status of the proposed new Pharmacy Act for the District of Columbia, it does feel that the definition prepared by Mr. Brylawski is an excellent one and that it meets all of our objectives. The wording is as follows:

The 'practice of pharmacy' is the practice of that profession concerned with the art and science of preparing from natural and synthetic sources drugs and medicines for use in the treatment and prevention of disease, including their proper and safe distribution, whether dispensed on the prescription of a medical practitioner or legally dispensed or sold directly to the ultimate consumer.

An examination of this definition will show that the important distributive function of the pharmacist is included and that this distributive function which is involved in his professional practice includes prescription drugs as well as those sold directly to the consumer.

Your Committee has amended this definition only by the insertion of a single word, namely, "diagnosis," so that in its amended form the definition reads:

The "practice of pharmacy" is the practice of that profession concerned

with the art and science of preparing from natural and synthetic sources drugs and medicines for use in the diagnosis, treatment, and prevention of disease, including their proper and safe distribution, whether dispensed on the prescription of a medical practitioner or legally dispensed or sold directly to the ultimate consumer.

Your Committee wishes to endorse this latter definition and submit it for your consideration. In the event that this definition is accepted, the Committee then recommends that this Committee be dismissed, having discharged its duties as assigned.

The Committee further recommends that the definition, if accepted, be given wide distribution to all state associations and boards of pharmacy and that it receive serious consideration for possible use in those states where some revision in the Pharmacy Act is contemplated.

Linwood F. Tice, Chairman

Addendum

Since the submission of this report, the Committee has been contacted by Mr. Raymond J. Dauphinais, director of the Legal Division of the American Pharmaceutical Association. Mr. Dauphinais raises certain questions concerning the advisability of attempting to define the "practice of pharmacy" for legal purposes. Since this, in essence, contradicts the responsibility with which the Committee was charged, the Committee recommends that this position by the Legal Division of the A.Ph.A. be explored further before the definition as promulgated is distributed for the use intended. Every effort will be made to reconcile the viewpoint leading to the appointment of this Committee with that expressed by Mr. Dauphinais, and it is hoped that a mutually satisfactory solution can be found.

REPORT OF THE 1960 COMMITTEE ON COMMITTEES

Pursuant to a recommendation by the Executive Committee at its Interim Meeting in November, 1959, President Bliven appointed a special Committee on Committees consisting of Deans Burlage, Hager and Orr, and R. A. Deno, chairman. The Committee was asked to review the report of an earlier Committee on Committees published in the *Journal* in April, 1954; to revise their report in the light of subsequent official actions; and to make such other suggestions as seem-

ed advisable, with special reference to the 1959 report of the Committee on Educational and Membership Standards.

The 1960 Committee has attempted to bring the 1954 Report up to date by study of official resolutions bearing on AACP committees, actions of the Executive Committee, and official policy as outlined in the Association's policy code and in its Officers' Manual. Comments were requested from current officers and members of the Executive Com-

mittee, and from AACP committee chairmen for 1959 and for 1960. More than twenty letters were received, and this help is herein gratefully acknowledged by the Committee.

With the exception of a few relatively minor changes, the 1954 Report is eminently satisfactory today. Any failure of chairmen or members of AACP committees to comprehend their respective responsibilities cannot be charged to absence of specific directives. Such failure may well be due to lack of knowledge of the directives contained in the 1954 Report and in the Officers' Manual.

This 1960 Report is composed of the official changes in and additions to the 1954 Report, some additions recommended by the 1960 Committee, and a resolution dealing with the publication of a "Guide for AACP Committees."

The *Publication Committee* should be added to the list of *Standing Committees*. It consists of the chairman of the Executive Committee, who serves as its chairman, the secretary-treasurer and the editor of the *American Journal of Pharmaceutical Education*. The duties of the Publication Committee are concerned chiefly with the *Journal*. The editor may call on the other two members for advice, or they may make unsolicited suggestions to him. When major changes in the *Journal* are contemplated, the Publication Committee should study such proposals and make recommendations with reference to them.

An *Auditing Committee* certified the report of the secretary-treasurer of the American Conference of Pharmaceutical Faculties at the third annual meeting, held in 1902, and this procedure has been followed ever since. During the early years the audit was easily made at the time of the annual meeting. As the activities and expenditures of the Association increased, however, such audit became more and more difficult and less and less meaningful. By the early 1950's an accurate audit at the time of the annual meeting by amateurs was impossible. In 1954, the Executive Committee voted to pay a firm of professional accountants for an annual audit and to bond the Association's fiscal officers (the chairman of the Executive Committee and the secretary-treasurer). These practices render the work of an internal Auditing Committee unnecessary, and since such internal audit is not provided for in the Constitution or Bylaws the Auditing Committee should be discontinued.

The *Committee on Curriculum* has customarily been appointed so as to secure repre-

sentation from each of the areas of professional instruction. This practice should be noted, and the possibility of appointing a nonpharmaceutical educational specialist to the Committee should also be specified.

Comments concerning the *Committee on Educational and Membership Standards* were numerous, ranging from suggestions to abolish the Committee to the proposals concerning it contained in the 1959 report of this Committee. The proposals advanced by the 1959 Committee warrant trial, and the following statement with reference to this Committee, prepared by the 1959 chairman, is hereby endorsed.

The projects that have been recommended and undertaken by the Committee on Educational and Membership Standards in recent years indicate clearly that the Committee should concern itself with *educational policies* rather than "educational and membership standards." The educational policies developed by the Committee should faithfully reflect the membership standards promulgated by the Committee on Constitution and Bylaws and thus be in accord with the accreditation policy and standards as established by the American Council on Pharmaceutical Education.

It is recommended, therefore, that a Committee on Educational Policies be set up as a standing committee of the Association, replacing the Committee on Educational and Membership Standards.

It is further recommended that the Committee concern itself with educational policies in respect to (1) the administration of colleges of pharmacy, (2) the instructional activities within these institutions, and (3) the relationships of these institutions with each other and with institutions of other types. The Committee's findings and recommendations that are of significance from the standpoint of accreditation policies or standards and membership standards shall be referred to the American Council on Pharmaceutical Education or to the Committee on Constitution and Bylaws. The Committee shall study carefully the reports of other committees of the Association and take under consideration all recommendations involving educational policies.

The continuing *Committee on Civil Defense Education* has been renamed the *Committee on Public Health and Civil Defense*. A suggestion to add a *Committee on Poison*

Control Information Centers is not recommended because the duties of such a committee clearly fall within the area of public health and therefore within the domain of this Committee.

The *Committee on Graduate Programs* should accept responsibility for the annual reports on graduate programs now provided by the *Committee on Recruitment Aids*.

The *Committee on Problems and Plans* thrived under the chairmanship of Editor Lyman. It is highly questionable if this Committee will continue its unique contributions, and it is recommended that it be discontinued.

The *Committee on Recruitment Aids* should serve as an advisory group for the enlarged A.Ph.A. program in this area and for such programs as the National Science Fairs.

Suggestions to add the *Committee on Committees* as a standing or continuing committee are not concurred in because the Executive Committee should normally serve in this capacity.

The special *Committee on Continuation Studies* should be designated a continuing committee. Its duties include examination of continuation study programs in other areas,

as well as means for financing and recommendations on the nature of such programs in pharmacy.

The special *Committee on Hospital Pharmacy Education* may well become part of a permanent joint committee of similar or identical title sponsored by the ASHP and the AACP (see recommendations in the 1960 report of this Committee).

It is noted that the AACP no longer has a representative to the NWDA. If this is official policy, reference to such representation should be deleted from committee directives.

The following resolution has been sponsored by the 1960 *Committee on Committees* and has been forwarded to the chairman of the Committee on Resolutions.

Be it resolved, that the recommendations made in the *Report of the 1960 Committee on Committees* be approved, and,

Be it further resolved, that a "Guide for AACP Committees" be prepared and published in form as directed by the Executive Committee and including pertinent data from the Constitution and Bylaws, 1954 and 1960 reports of the Committee on Committees, Officers' Manual, and minutes of the AACP Executive Committee.

R. A. Deno, Chairman

REPORT OF THE SPECIAL COMMITTEE ON FULL-TIME SECRETARY AND HEADQUARTERS

It is most appropriate that we should discuss the employment of a full-time secretary, particularly following Bill Apple's comments regarding lack of continuity in our own programs. Somehow we must reevaluate their thinking. We have discussed this on previous occasions and have presented this matter formally before this Association, but at the time, although there was a majority in favor of the proposal, the recommendation failed because it lacked the necessary two-thirds majority. Your Executive Committee agrees that our Association needs continuity of effort.

All through Bill Apple's presentation this morning I could not help realizing how important it is for us to have an individual who can follow through on the programs which this Association initiates and in which we should be leaders. Pharmaceutical education has been omitted far too many times from pharmaceutical as well as medical and public

health meetings and considerations because there is no one individual who speaks for pharmaceutical education. We have been fortunate to have so many individuals who have been unselfish with their own time and who were permitted, in fact encouraged, by their own colleges and universities to participate in the leadership of this Association. We all recognize these men and appreciate their contributions, but we now have arrived at the place where we must do something to assure continuity and strengthen our programs, and this requires the employment of a full-time individual as secretary of this Association.

If I may be permitted to speak as one of you, I should like to remind you that it has been my honor, privilege, and obligation to serve in the capacity of chairman, secretary-treasurer, and president of this Association. This experience has demonstrated to me the terrific obligations which our officers face.

It demonstrated time and again duties which, because of lack of time, were neglected. It revealed lack of communication and, frequently, inadequate continuity among the Executive Committee, the chairman, and other officers. This is not condemnation of any individual or group of persons, but merely to emphasize that it is necessary for some one person to place the Association and pharmaceutical education above everything else.

The Association of American Medical Colleges has full-time personnel. The American Association of Dental Colleges has its own full-time secretary. I can but remind you that both of the above organizations have undertaken projects in which we should have shared, but we were not invited simply because we had no single individual who had all these things before him at the proper time.

Every administrator has budget problems, and all of us are inclined to minimize costs. However, I am inclined to believe that part of the problem to which Bill Apple alluded this morning can be charged to the paucity of funds allocated to pharmaceutical education. I should like to believe that if medical college dues are \$1,500 a year and the college of dentistry dues are \$1,000 a year, the colleges of pharmacy have every right and every reason to expect that they should have at least \$500 as their annual dues.

May I put you at ease. No one has been contacted, no one approached, no one encouraged, and no one employed for this prospective position. I was informed last evening of a rumor indicating that the Executive Committee has already made a selection of the individual for this position. Nothing could be further from the truth. No one has been contacted relative to filling this position.

Another rumor which was floating about indicated that the Executive Committee was calling for a vote this afternoon and that it is prepared to collect the new dues at once. This too is an error. If we vote in favor of this proposal, the dues will be \$500 annually, but they will not become effective until 1961.

The Nominations Committee, with Dean Rowe as chairman, has been instructed to name a successor for Secretary Webster for the coming year. If the vote is in favor of

the appointment of a full-time secretary, the increased dues will become effective within your 1961 budgets.

The Executive Committee urged me to review the budget with you briefly. Items of salaries and retirement in the budget at present amount to \$19,310.00. This figure includes the secretary and clerical help. May I remind you that no one has even mentioned construction of a building for the American Association of Colleges of Pharmacy. Quite to the contrary, I should remind you that we have a very attractive A.Ph.A. building in Washington, where perhaps we should locate our office eventually.

Other items on the budget are the following: rent and travel, \$6,000.00; postage, meetings, dues, etc., \$14,150.00; teachers' seminars, \$10,000.00; printing and distribution of our journal, \$16,000.00. The total budget is \$65,460.00.

Income is anticipated as follows: dues from seventy-seven members and three affiliates, \$38,650.00; seminars (AFPE grant), \$10,000.00; interest, \$200.00; the *Journal*, including AFPE grant, \$10,500.00. The deficit, which we believe ultimately will be approximately \$10,000.00, we are hoping to solicit from some foundation, preferably the American Foundation for Pharmaceutical Education.

I have presented the facts as they were discussed at the Executive Committee meeting. I have told you the story as it exists. Dr. Allen's presence this morning should be a serious reminder of the opportunities for pharmacy to obtain grants, scholarships and matching funds for buildings and equipment. To understand these foundations and the procedure for obtaining such funds requires a person who knows his way about Washington. We would hope our secretary would be such an individual.

I trust that our vote this afternoon will be favorable, and I believe it will be, since several who were instructed to vote against it last time now have been authorized to vote in favor of its adoption.

Louis C. Zopf

(Editor's Note. The above report was given extemporaneously, and with slight modification it is as it appears in the transcript of the proceedings of the Convention.)

JOHN A. BILES*

THE ROLE OF THE PHARMACIST IN CIVIL DEFENSE**

Some years ago the AACP established a committee on Civil Defense, which is now known as the Committee on Public Health and Civil Defense. The committee members are primarily concerned with the role of the pharmacist in public health, poison information centers and civil defense.

The pharmacy profession is engaged with the distribution and use of materials in the treatment and prevention of disease. "It embraces a knowledge of the identification, selection, pharmacologic action, preservation, combination, analysis, and standardization of drugs and medicines. It also includes their proper and safe distribution and use whether dispensed on the prescription of a licensed physician, dentist, or veterinarian or, in those instances where it may legally be done, dispensed or sold directly to the consumer." (1) The faculties of the colleges of pharmacy are continually changing the educational programs so that the pharmacy graduates can accept their responsibilities in this health profession. As of

1960, all of the American colleges will be on a five-year educational program. Two of the accredited colleges now require six years of education, and a third college has announced the offering of a six-year program. Certainly any professional person having this type of education should be of definite service in matters pertaining to civil defense. In order to determine adequately the role of the pharmacist, the education which he receives should be understood, his safeguarding the public health by more careful supervision of the handling and dispensing of drugs should be recognized, and his daily contact with the multitude of laymen should be considered in educating the public in disaster control and prevention. Finally, his educational background should be utilized by the medical profession in

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**A contribution of the Committee on Public Health and Civil Defense.

times of disaster, since shortages of medical personnel would exist.

The Committee on Educational and Membership Standards of the AACP reported that in the five- and six-year programs about 15 per cent of the program was devoted to basic biological science, about 23 per cent to mathematics and basic physical science, about 17 per cent to general education and about 45 per cent to professional areas. In the professional area approximately 13 and 20 per cent respectively were devoted to pharmacology and pharmaceutical chemistry. (2) In the biological sciences and pharmacology, pharmacy students generally have courses in zoology, anatomy, human physiology and a year's course in pharmacology. This background, in addition to pharmaceutical chemistry, is necessary in order that the pharmacist will be able to correlate physical, chemical and pharmacological properties. Thus, the pharmacist is an expert on drugs; he possesses an excellent knowledge of structure, use and action, storage and dispensing. More than ever before, the health professions should recognize that the pharmacist is the most adequately trained person to undertake the storage and distribution of drugs used in disasters. The relationship of the physician to the pharmacist in drug distribution may be compared to that of the surgeon to the surgical nurse. It would be apparent that the surgeon would prefer the nurse who anticipated his requests and had the proper surgical instruments immediately at the hand's grasp. Thus, the educational background of the pharmacist is sufficient that he should be able to anticipate the physician's request for drugs and have available the stockpiles of essential materials for the treatment of casualties.

As previously stated, approximately 23 per cent of the pharmacist's educa-

tional program is devoted to mathematics and basic physical science. In the professional curriculum, approximately 20 per cent of the program is devoted to pharmaceutical chemistry. The majority of colleges do not require a separate course dealing with radioactivity. However, the background of the pharmacist is sufficient so that he may help to develop a proper radiologic defense. With proper preparation the pharmacist could play a key role in decontamination operations and the detecting and measuring of radioactive fall-out.

Dr. C. T. Flottee in discussing "The Medical Management of Mass Casualties" stated that "a population alerted to the possible danger and informed as to what is probably the best method of action for survival will be better prepared to cope with disaster." (3) At the ninth conference Dr. W. P. Dearing stated that "the health professions have an important responsibility to participate in the education of the general public for disaster . . . Widespread health education, including first aid and home nursing training, is a fundamental step toward survival, and we in the health professions have the teaching job to do." (4) The pharmacist should be a key figure in this public education. Preston and Schwartz have stated that "unlike other professions involved in the disaster preparedness planning, pharmacists are ubiquitously distributed; they are in the highly congested downtown areas, in industrial, residential and rural districts . . . There is about one pharmacist for every 1500 people and the total number of practicing pharmacists is about 110,000. It has been estimated that approximately 150 million people enter pharmacies or drugstores in the United States each week. An additional number of people pass by drugstore windows, where suitable displays

can arrest their attention and invite them to go inside for further information." (5) It would be difficult to find any other member of the health team who comes in contact with a greater number of laymen. It may not be economically feasible to make literature and proper displays available to all of the 55,000 pharmacies in the United States. However, it has been estimated that 75 per cent of all prescriptions are filled in 12,000 pharmacies in the United States; and there are about 6,000 strictly professional pharmacies in the United States. Preston and Schwarz further stated that because of the pharmacist's "educational background, which includes such subjects as physics, chemistry, physiology, pharmacology, and bacteriology, he is in a position to augment the general information which may be contained in displays, posters and pamphlets." Therefore, the pharmacist should be used in the dissemination of information as recommended and distributed by the Office of Civil and Defense Mobilization, Resources Programming Office of Resources and Production, and the Emergency Plans and Requirements Staff of the USPHS and Office of the Surgeon General and other responsible organizations.

Several authorities have written concerning the shortage of proper personnel in conditions of disaster. The drastic conditions that resulted at Nagasaki and Hiroshima are well known. Of the more than 200 physicians in Hiroshima (population of 300,000) over 90 per cent were casualties. Only thirty of these were on duty one month after the raid. Of the 1,780 trained nurses in the city, 1,654 were killed or seriously injured. (6) This is indicative of the tremendous pressure which medical personnel would face in case of atomic warfare. Recently Charles L. Braucher stated that "by training just ten per cent of the most qualified registered

pharmacists throughout the United States in emergency medical care of mass casualties, the emergency medical manpower would be increased by approximately 11,000. This would leave approximately 100,000 registered pharmacists throughout the United States to carry on other auxiliary functions such as medical supply and dispensing."

(7) The faculties of the colleges of pharmacy offer courses in public health and first aid. These courses, in addition to the courses in physiology, anatomy and pharmacology, provide a good background. The faculties feel that next to nurses, there are no better educated individuals for the medical profession to call upon for assistance in emergency medical aid. This is particularly true for those pharmacists who have been educated under the five- or six-year plan.

In 1958 Major General Silas B. Hays stated that medical preparedness can best be encouraged through the national, state and local medical, dental, veterinary and nursing associations. (8) The members of the American Association of Colleges of Pharmacy request that the pharmacist be utilized in the Civil Defense Program. It is possible that a pharmaceutical apathy exists in this program. This apathy may exist because the pharmacist has not been contacted, he has not been shown the importance of his role in the program, or he has been totally ignored. The educated pharmacists could make a major contribution to the welfare of the people if they were able to utilize their professional ability in (1) the stockpiling of medical supply and its dispensing, (2) the development of radiologic defense, (3) the education of the public in matters of civil defense, medical preparedness and public health and (4) increasing the medical manpower in emergency disasters of local, state, national or world-wide concern.

References

- (1) "Report of AACP-NABP Joint Committee to Redefine the Term 'Pharmacy'," *Am. J. Pharm. Ed.*, **24**, 64(1960).
- (2) "Report of the Committee on Education and Membership Standards," *ibid.*, p. 28.
- (3) Flottee, C. T., *General Practitioner*, **19**, 133(1959).
- (4) Dearing, W. P., *J. Am. Med. Assoc.*, **169**, 354(1959).
- (5) Preston, J. E., and Schwarz, T. W., *J. Am. Pharm. Assoc., Prac. Ed.*, **21**, 644(1960).
- (6) Green, P. M., *Australasian J. of Pharm.*, **39**, 458(1958).
- (7) Braucher, C. L., *Am. Profess. Pharm.*, **25**, 617(1959).
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REPORT OF DEGREES CONFERRED BY SCHOOLS AND COLLEGES OF PHARMACY FOR THE ACADEMIC YEAR 1959-1960

This report includes degrees conferred by schools of pharmacy in the Continental United States with the exception of Hampden College of Pharmacy in Massachusetts which did not sub-

mit its figures. In addition, the degrees granted by the University of the Philippines and the University of Puerto Rico are tabulated.

Report of Degrees Conferred, 1959-1960

DISTRICTS	B.S.		B. of Pharm.		M.S.		M.A.		Pharm. D.		Ph.D.		Honorary		Totals	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
1	205	21	—	—	9	—	—	—	—	—	3	—	5	—	222	21
2	813	97	—	—	35	4	—	—	—	—	5	—	4	—	857	101
3	439	38	—	—	2	1	—	—	—	—	5	—	—	—	446	39
4	573	94	—	—	45	5	—	—	—	—	31	1	1	—	650	100
5	239	28	—	—	15	1	—	—	—	—	4	—	—	—	258	29
6	360	41	—	—	7	—	—	—	—	—	2	—	1	—	370	41
7	177	46	6	1	3	—	1	—	—	—	1	—	—	—	188	47
8	195	22	—	—	3	—	—	—	92	10	8	—	—	—	298	32
TOTALS (Men and Women)	3001	387	6	1	119	11	1	—	92	10	59	1	11	—	3289	410
GRAND TOTAL	3388		7		130		1		102		60		11		3699	
Univ. of the Philippines	20	2	—	—	—	—	—	—	—	—	—	—	—	—	20	2
Univ. of Puerto Rico	11	18	—	—	—	—	—	—	—	—	—	—	—	—	11	18

In the Continental United States there were 180 fewer bachelor's degrees, thirteen more master's degrees, eighteen fewer Doctor of Philosophy degrees, nine fewer Doctor of Pharmacy degrees, and two more Honorary degrees granted in 1959-1960 than in 1958-1959.

It is expected that next year's report will include the degrees granted by the Canadian affiliate schools of the American Association of Colleges of Pharmacy.

H. G. Hewitt, Chairman
Executive Committee

REPORT ON ENROLLMENT IN SCHOOLS AND COLLEGES OF PHARMACY FIRST SEMESTER, TERM OR QUARTER 1960-1961

These figures represent a comparison between the registrations of the *last three classes* for the years 1959-60, 1960-61. This is the second time we have meaningful figures for comparisons. In the past, because of programs of varying length, preprofessional versus professional school registration, and other variables, we did not have valid statistics. In the past, freshman statistics were not available from all schools, as many institutions did not register the students in the school or college of pharmacy. From now on, we will carry this type of analysis as one with meaning for comparative purposes.

Analysis of Enrollment Report for 1960-1961

The following is a summary of some of the high spots included in this report:

1. Total pharmacy students in their last three years of training for 1960-61 of 13,606 represents an increase of 1,077 students over the comparable group in 1959-60—a gain of 8.6 per cent.

2. All Districts except VII, which represents the six pharmacy schools in the states of Idaho, Montana, Oregon, Washington, and Wyoming, show increased enrollments over the last academic year.

3. There are forty-six more, or an increase of 1.3 per cent, in their last year of training in 1960-61 as compared with the similar group in 1959-60; 196 more, or an increase of 5.1 per cent, in their second last year; and 841 more, or an increase of 16.9 per cent, in their third last year over 1959-60. The very small number of special students are not included in these figures.

4. In the continental schools there is an increase of 200 women students or 13.6 per cent over 1959-60.

These figures are most encouraging as they represent definite increases in each class now in training. This marks the end of the statistical drop in enrollment which is characteristic not only of schools of pharmacy but also of university enrollments in general.

There will follow a report on the enrollments of the members of our Association in Canada as well as Puerto Rico and the Philippines. This delay is due to the fact that statistics were not received in time to include them in this report.

Further, there will be an analysis of geographical distribution of students as directed by the Executive Committee. This will be released in the very near future.

H. G. Hewitt, Chairman
Executive Committee

Undergraduate Enrollment Report (Member Colleges in Continental United States) 1960-1961

	1959-1960						1960-1961						Total Men	Total Women	Net Gain or Loss		Total Students	Total Net Loss or Gain	
	Last Year			2nd Last Year			3rd Last Year			1959-60									1960-61
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total			Men	Women			Total
District I																			
University of Connecticut.....	67	10	77	55	11	66	84	31	65	9	69	26	90	18	206	224	52	19	
Hampden College.....	16	4	20	11	2	13	20	4	11	2	21	5	24	3	47	56	10	9	
Massachusetts College.....	85	7	92	99	12	111	121	10	90	12	102	11	137	9	305	329	29	27	
New England College.....	54	4	58	48	1	49	36	4	44	1	26	3	63	4	141	137	9	9	
University of Rhode Island.....	15	—	15	16	1	17	14	9	14	1	13	6	32	7	45	59	10	18	
Totals.....	237	25	262	229	27	256	275	58	224	25	231	51	346	41	744	805	110	64	
District II																			
Albany College.....	62	11	73	78	7	85	86	10	71	6	81	9	94	15	226	246	28	22	
Brooklyn College.....	102	2	104	124	4	128	132	1	112	4	122	—	150	4	363	384	7	22	
University of Buffalo.....	32	13	45	36	6	42	54	11	37	7	41	6	85	16	122	163	30	40	
Columbia University.....	64	3	67	89	12	101	101	9	82	10	95	9	98	8	254	275	24	24	
Duquesne University.....	33	13	46	36	15	51	53	16	35	14	38	13	50	13	122	123	44	3	
Fordham University.....	58	7	65	84	13	97	86	9	83	12	76	9	95	8	229	254	29	25	
George Washington University.....	18	1	19	17	5	22	24	6	15	3	18	6	19	5	59	52	12	7	
Howard University.....	25	3	28	24	7	31	32	6	31	20	27	5	20	6	81	78	16	3	
University of Maryland.....	40	4	44	41	6	47	58	4	33	5	53	2	56	12	139	142	14	3	
Philadelphia College.....	124	9	133	119	20	139	137	18	107	18	130	14	147	29	380	384	47	4	
University of Pittsburgh.....	45	2	47	48	7	55	64	7	46	8	65	7	66	9	166	177	16	8	
Rutgers University.....	54	2	56	7	74	81	75	10	53	7	54	9	97	12	185	204	19	9	
St. John's University.....	63	7	70	74	4	78	6	6	65	4	78	6	95	9	237	238	18	1	
Temple University.....	94	14	108	75	11	86	105	16	71	11	89	16	99	11	275	259	41	3	
Medical College of Virginia.....	48	8	56	61	10	71	68	18	50	9	58	17	66	18	177	174	36	4	
University of West Virginia.....	12	5	17	20	3	23	32	5	18	2	30	5	24	8	64	72	13	2	
Totals.....	874	104	978	982	137	1119	1207	153	909	140	1055	133	1261	183	3079	3225	394	208	

Undergraduate Enrollment Report (Member Colleges in Continental United States) 1960-1961

	1959-1960						1960-1961						Total Men	1959-60	1960-61	Total Women	Net Gain or Loss 1960-1961	1959-60	1960-61	Total Students	1960-61	Total Net Loss or Gain
	Last Year		2nd Last Year		3rd Last Year		Last Year		2nd Last Year		3rd Last Year											
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women										
District III																						
Auburn University.....	22	3	23	4	49	8	21	4	47	5	51	10	94	119	15	19	25	4	109	138	29	
University of Florida.....	48	3	65	10	105	21	52	7	57	10	160	29	218	269	34	46	51	12	252	315	63	
Florida A & M.....	7	0	4	0	3	1	4	0	2	1	9	4	14	15	0	5	1	5	14	20	6	
University of Georgia.....	69	2	66	4	111	14	76	3	64	8	106	15	246	246	20	26	0	6	266	272	6	
Howard College.....	66	3	69	6	77	6	65	6	84	7	110	8	212	259	15	21	47	4	155	159	53	
University of Mississippi.....	41	5	46	6	52	5	40	7	49	2	54	7	139	143	16	16	4	0	227	280	4	
University of North Carolina.....	41	7	41	9	90	10	41	7	72	9	104	16	175	217	26	32	42	6	201	249	48	
Southern College.....	49	4	30	2	61	4	31	0	50	4	72	6	140	153	10	10	13	0	150	163	13	
(Mercer University)																						
Medical College of South Carolina.....	27	1	15	2	27	2	9	1	23	1	25	5	69	57	5	7	12	2	74	64	10	
University of South Carolina.....	21	2	33	9	51	10	33	8	28	6	78	10	105	139	21	24	34	3	126	163	37	
University of Tennessee.....	51	6	62	6	91	8	59	4	82	8	90	10	205	231	20	22	26	2	225	253	28	
Totals.....	442	36	454	58	717	89	431	47	558	61	859	120	1617	1848	182	228	231	46	1799	2076	+277	
District IV																						
Butler University.....	36	3	36	5	52	3	38	3	38	3	50	8	124	126	11	14	2	3	135	140	5	
University of Cincinnati.....	44	3	49	10	65	6	46	10	63	4	80	9	158	189	19	23	31	4	177	212	35	
Ferris Institute.....	114	16	74	18	115	13	80	12	71	4	135	29	303	286	37	45	17	8	340	331	9	
University of Illinois.....	80	9	86	9	163	19	82	8	108	17	186	26	329	376	37	51	47	14	366	427	61	
University of Kentucky.....	41	7	39	10	23	0	42	8	20	0	32	5	103	94	17	13	9	4	120	107	13	
University of Michigan.....	21	14	25	14	28	11	19	12	21	7	28	25	75	68	39	44	7	5	114	112	2	
Ohio Northern.....	74	9	80	8	86	11	72	8	68	6	95	21	240	235	28	35	5	7	268	270	2	
Ohio State University.....	23	6	37	5	37	3	34	5	41	11	35	10	97	110	24	26	13	2	136	161	15	
Purdue University.....	73	16	75	18	101	20	85	11	94	17	117	28	249	296	54	56	47	2	303	352	49	
University of Toledo.....	28	3	29	5	27	10	28	4	28	9	32	4	84	88	18	17	4	1	102	105	3	
Wayne State University.....	48	7	47	8	78	3	43	6	50	5	85	11	173	178	18	22	5	4	191	200	57	
University of Wisconsin.....	50	8	59	8	76	14	61	6	71	11	102	23	186	234	31	40	48	9	217	274	57	
Totals.....	632	101	636	108	851	123	630	93	673	94	977	199	2121	2280	333	386	159	53	2454	2666	+212	

Undergraduate Enrollment Report (Member Colleges in Continental United States) 1960-1961

	1959-1960				1960-1961				Total Men	Total Women	Net Gain or Loss 1960-1961	Total Students	Total Net Loss or Gain										
	Last Year		3rd Last Year		Last Year		2nd Last Year							3rd Last Year									
	Men	Women	Men	Women	Men	Women	Men	Women						Men	Women								
<i>District V</i>																							
Creighton University.....	20	8	14	2	18	6	10	2	15	6	27	6	42	52	16	14	+	10	-	2	58	66	8
Drake University.....	42	4	42	6	55	7	42	8	43	6	44	9	139	129	17	23	+	10	+	6	156	152	-
University of Iowa.....	54	9	38	5	42	3	36	4	32	5	68	5	134	136	20	14	+	2	+	6	154	150	-
University of Minnesota.....	24	0	29	5	33	6	29	4	26	6	32	7	88	87	11	17	+	1	+	6	99	104	5
University of Nebraska.....	21	0	1	0	16	1	2	0	13	2	19	2	38	34	1	4	-	4	+	3	39	38	-
North Dakota State University.....	50	4	59	7	62	2	51	4	61	4	90	9	171	202	13	17	+	31	+	4	184	219	35
South Dakota Agricultural College.....	39	4	45	8	49	11	45	8	42	6	57	11	133	144	23	25	+	11	+	2	156	169	13
Totals.....	250	29	228	33	275	39	215	30	232	35	337	49	745	784	101	114	+	39	+	13	846	898	52
<i>District VI</i>																							
University of Arkansas.....	20	1	23	2	31	1	20	2	29	0	29	2	75	78	4	4	+	3	+	0	79	82	3
University of Houston.....	30	3	55	3	78	8	47	3	60	2	89	4	163	196	14	9	+	33	-	5	177	205	28
University of Kansas.....	23	2	27	2	17	0	28	1	21	3	25	5	67	74	4	9	+	7	+	7	71	83	12
University of Kansas City.....	28	3	22	1	17	2	20	1	18	2	21	2	67	59	6	5	-	8	-	1	73	64	9
Loyola University of South.....	12	2	19	1	19	3	17	1	16	3	14	4	50	47	6	8	-	3	+	2	56	55	-
North East Louisiana.....	41	4	75	5	71	11	51	6	75	9	82	2	187	208	20	17	+	21	+	3	207	225	18
St. Louis College.....	70	7	69	6	128	10	68	7	87	5	151	15	267	306	23	27	+	39	+	4	290	333	43
University of Oklahoma.....	31	8	34	5	52	11	33	6	38	11	50	8	117	121	24	25	+	4	+	1	141	146	5
Southwestern State.....	35	2	41	3	41	9	45	3	43	6	78	1	117	166	14	10	+	49	+	4	131	176	45
University of Texas.....	75	8	61	8	102	18	86	12	60	16	165	25	238	311	34	53	+	73	+	19	272	364	92
Texas Southern.....	18	6	13	3	13	3	13	3	13	5	32	6	44	58	12	14	+	14	+	2	56	72	16
Xavier University of Louisiana.....	8	2	8	0	12	10	7	0	6	8	12	5	28	52	12	13	-	3	+	1	40	38	-
Totals.....	391	48	447	39	581	86	435	45	466	70	748	78	1420	1649	173	194	+	229	+	21	1593	1843	250

Undergraduate Enrollment Report (Member Colleges in Continental United States) 1960-1961

	1959-1960						1960-1961						Total Men	Total Women	Net Gain or Loss 1960-1961		Total Students	1960-61	Total Net Loss or Gain	
	Last Year		2nd Last Year		3rd Last Year		Last Year		2nd Last Year		3rd Last Year									
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women								
District VII																				
Idaho State College.....	37	3	23	2	29	0	30	2	23	0	36	4	89	89	5	6	0	94	95	1
Montana State University.....	21	4	14	1	23	2	13	2	20	2	16	4	58	49	7	8	9	65	57	8
Oregon State College.....	30	8	46	5	61	8	44	5	36	4	73	15	137	153	21	24	16	158	177	19
Washington State University.....	17	8	6	3	17	4	6	2	12	4	17	2	40	35	15	8	7	55	43	12
University of Washington.....	41	21	23	2	26	6	26	3	20	6	44	7	90	90	29	16	0	119	106	13
University of Wyoming.....	22	6	14	5	18	7	10	5	18	5	24	6	54	52	18	16	2	72	68	4
Totals.....	168	50	126	18	174	27	129	19	129	21	210	38	468	468	95	78	0	563	546	17
District VIII																				
University of Arizona.....	19	1	18	5	24	3	18	6	25	2	30	7	61	73	9	15	12	70	88	18
University of California.....	38	5	79	9	55	7	67	4	57	8	56	11	176	180	21	23	4	197	203	6
University of Colorado.....	24	5	24	2	23	8	20	3	17	0	37	8	72	64	15	11	18	87	75	12
University of New Mexico.....	18	1	15	2	28	3	14	2	17	1	49	3	61	80	6	6	19	67	86	19
University of Pacific.....	30	3	44	4	26	3	56	3	23	3	34	5	100	113	10	11	13	110	124	14
University of Southern California.....	64	3	102	9	90	3	82	13	39	6	86	7	256	258	15	26	2	271	284	14
University of Utah.....	43	4	43	1	50	4	31	0	39	4	40	4	136	110	9	8	26	145	118	27
Totals.....	236	22	325	32	296	31	288	31	258	24	332	45	862	878	85	100	16	947	978	31

Statistical Summary Sheet
 AACP Undergraduate Enrollment Report
 1960-1961

	1959-1960						1960-1961						Total Men		Total Women		Net Gain or Loss 1960-1961		Total Students		Total Net Loss or Gain	
	Last Year		2nd Year		3rd Year		Last Year		2nd Last Year		3rd Last Year											
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
District I.....	237	25	229	27	275	58	224	25	231	51	346	41	744	801	110	117	57	7	854	918	+	64
District II.....	874	104	982	137	1207	153	909	140	1055	117	1261	183	3079	3225	394	456	+146	+ 62	3473	3681	+	208
District III.....	442	36	454	58	717	89	431	47	558	61	859	120	1617	1848	182	228	+231	+ 46	1799	2076	+	277
District IV.....	632	101	636	108	851	123	630	93	673	94	977	199	2121	2280	333	386	+159	+ 53	2454	2666	+	212
District V.....	250	29	228	33	275	39	215	30	232	35	337	49	745	784	101	114	+ 39	+ 13	846	898	+	52
District VI.....	391	48	447	39	581	86	435	45	466	70	748	78	1420	1649	173	194	+229	+ 21	1593	1843	+	250
District VII.....	168	50	126	18	174	27	129	19	129	21	210	38	468	468	95	78	0	— 17	563	546	—	17
District VIII.....	236	22	325	32	296	31	288	31	258	24	332	45	862	878	85	100	+ 16	+ 15	947	978	+	31
Totals.....	3230	415	3427	452	4376	606	3261	430	3602	473	5070	753	11056	11933	1473	1673	+ 877	+ 200	12529	13606	+	1077

REPORT OF THE COMMERCIAL AUDITOR

ALBERT J. SCHNEIDER
CERTIFIED PUBLIC ACCOUNTANT

November 3, 1960

To the Executive Committee
American Association of Colleges of Pharmacy
Gentlemen:

We have examined the balance sheet of the American Association of Colleges of Pharmacy as of July 31, 1960, the related statement of revenues and expenditures and the related statement of unexpended fund balances for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet, the related statement of revenues and expenditures, and the related statement of unexpended fund balances present fairly the financial position of the American Association of Colleges of Pharmacy at July 31, 1960, and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Albert J. Schneider

**AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY
STATEMENT OF REVENUES AND EXPENDITURES**

Year ended July 31, 1960

General Fund

General Fund Revenue and Grants

Membership dues	\$15,325.00
<i>American Journal of Pharmaceutical Education:</i>	
Grant from American Foundation For Pharmaceutical Education	7,000.00
Journal subscriptions and sales	3,551.60
<i>Teachers' Seminars:</i>	
Grant from American Foundation For Pharmaceutical Education	8,500.00
Sales of <i>Proceedings</i> and roster	1.25
Brochure: <i>Shall I Study Pharmacy</i> —sales	10,312.20
Interest on bonds	248.40
Foreign exchange	5.30
Roster of Teachers, sales	3.75
Transfer from Recruitment Aids Fund	49.31
Total General Fund Revenue and Grants	\$44,996.81

General Fund Expenditures

<i>American Journal of Pharmaceutical Education</i>	\$10,830.88
Teacher's' Seminars, 1959 and 1960	15,963.10
Brochure: <i>Shall I Study Pharmacy</i>	8,157.13
Committee expenses	2,290.35
Secretarial salaries	5,604.75
Honoraria	2,100.00
Annual Meeting—1959 and 1960	3,222.19
Interim Meeting of Executive Committee	1,828.87
Representatives and delegates	1,267.63
Dues and allotments	2,843.50
Office supplies and mimeographing	368.42
Postage, telephone, and express	386.75
Employer's FICA tax	144.91
Independent audit report	100.00
Miscellaneous expense	21.55
Fidelity bonds	150.00
Roster of Teachers	113.91
Contingencies	—
Total General Fund Expenditures	\$55,393.94

Excess of Expenditures Over Revenues and Grants.....\$10,397.13

Recruitment Aids Fund

Recruitment Aids Fund Revenues

Sales of movie films	\$500.00	\$	
Less: refunds	125.00		375.00

Sales of portfolios			328.88
Sales of film strips			15.00

Total Recruitment Aids Fund Revenue\$ 718.88

Recruitment Aids Fund Expenditures

Service and replacement of rental films\$12,056.31

Purchase of new movie film —

Meeting expense 164.11

Display at National Science Teachers' Association Convention 321.56

Portfolios: packaging and delivery 135.66

Cost of brochures sent to National Science Teachers' Association:

 Printing 5,760.00

 Postage 2,560.00

 Packaging and shipping 154.06

Printing of Graduate Report 200.19

Transfer to General Fund 49.31

Unexpended fund balance transferred to

 American Pharmaceutical Association 4,169.97

Total Recruitment Aids Fund Expenditures
and Transfers\$25,571.17

Excess of Expenditures over Revenues\$24,852.29

Statement of Cash Receipts and Disbursements

	General Fund	Recruitment Aids Fund	Funds Combined
Cash balances, August 1, 1959	\$23,754.61	\$24,852.29	\$48,606.90
Cash receipts	44,996.81*	843.88	40,011.38
Totals	\$68,751.42	\$25,696.17	\$88,618.28
Cash disbursements	55,382.98	25,696.17*	75,249.84
Cash balances, July 31, 1960	\$13,368.44	\$ —	\$13,368.44

*Includes \$5,829.31 of funds transferred from Recruitment Aids Funds to General Fund.

A STUDY OF THE GEOGRAPHICAL DISTRIBUTION OF PHARMACY STUDENTS IN UNITED STATES AND CANADIAN SCHOOLS FOR THE ACADEMIC YEAR 1960-1961

A number of times in the past few years, it would have been most useful if we had had information about the distribution and migration of professional students in pharmacy from one state or country to another. Since such information has many uses, not only to educational societies and government agencies but for individual school studies as well, your chairman volunteered to gather this information as part of the enrollment studies for the present academic year. The Executive Committee approved this idea and the results, which I believe you will find interesting, follow.

Undergraduate Student Distribution

Alaska, Delaware, Hawaii, Maine, Nevada, New Hampshire, and Vermont do not have colleges of pharmacy and therefore must be served by the other schools in the remaining forty-three states.

In the last three years of training on the undergraduate level, Alaska sent one student to another state for training, while Delaware sent twenty-two, Hawaii eleven, Maine forty-four, Nevada nine, New Hampshire twenty-eight, and Vermont fifteen.

Illinois sent 348 of her sons and daughters elsewhere for training, followed by New Jersey with 303, California with 193, and Minnesota with 117. The grand total of undergraduate trainees in states other than their own home areas is 2,238.

The foreign student distribution in the United States finds that of the 161 in the undergraduate programs, Canada

sent twenty-one and India nineteen to the United States for training. Many countries sent seven or fewer students. In all, forty-four foreign countries are represented in our schools' undergraduate programs.

The following schools had more undergraduates from other states in training than from their own states: Creighton, Howard University, Idaho, St. Louis College of Pharmacy, and Xavier.

Alberta, Arkansas, Rutgers, and Wayne had no out-of-state or province undergraduate trainees.

The following twenty-one schools had no foreign undergraduates: Alberta, Colorado, Ferris Institute, Florida A. & M., Georgia, Hampden, Iowa, Kansas, Montana, Northeast Louisiana State, Purdue, Rhode Island, Medical College of South Carolina, University of South Carolina, Southern College, St. John's University, Texas Southern, Toledo, Medical College of Virginia, West Virginia, and Xavier University.

Graduate Student Distribution

At the graduate level, thirty-eight countries sent 238 students here for graduate training in thirty-four of our accredited schools and colleges of pharmacy. India led the way with ninety-one students in training, followed by Canada with fifteen, China (including Hong Kong) with twenty-five, and the Philippines with thirteen.

The University of Wisconsin led with thirty-two graduate student trainees from fifteen different countries. Michigan had nineteen from eight countries,

the Philadelphia College of Pharmacy and Science had fifteen from ten countries, and Iowa had fifteen from five different foreign countries.

In training within their own state schools, in other state schools, or from foreign countries, the fifty-two of our colleges giving graduate work had 917 trainees enrolled. Wisconsin and Purdue led in training seventy-three each, Michigan next with fifty-seven, Brooklyn College and Maryland tied with forty-four each, followed by Ohio State with forty, and the Philadelphia College of Pharmacy and Science with thirty-four.

General Observations

The few statements above are by no means all the information that can be gathered from the statistics presented in the tables at the end of this report. I trust that this study will justify the time spent on it, and if it is of interest to the members of our Association, your chairman will be pleased to repeat it next year.

Finally, may I thank the group for their cooperation in getting the information to me to make this study possible.

H. G. Hewitt, Chairman
Executive Committee

TABLE I
Geographical Distribution of Undergraduate Students
Enrolled in Member Colleges in the Last Three Years
of Training, 1960-1961

School	From Their Own State	From Other States	From Foreign Countries	Totals
Albany College	264	10	2	276
University of Alberta	222	0	0	222
University of Arizona	44	41	3	88
University of Arkansas	81	0	1	82
Auburn University	106	31	1	138
Brooklyn College	371	18	3	392
University of Buffalo	182	7	3	192
Butler University	112	26	2	140
University of California	188	4	15	207
University of Cincinnati	167	42	3	212
University of Colorado	50	25	0	75
Columbia University	264	37	1	302
University of Connecticut	198	78	1	277
Creighton University	27	38	1	66
Drake University	82	71	1	154
Duquesne University	132	30	1	163
Ferris Institute	316	15	0	331
University of Florida	261	53	1	315
Florida A. & M.	16	4	0	20
Fordham University	210	68	5	283
Geo. Washington University	57	8	1	66
University of Georgia	255	17	0	272
Hampden College	63	3	0	66
University of Houston	180	17	5	202
Howard College	175	98	1	274

TABLE I (Continued)

School	From Their Own State	From Other States	From Foreign Countries	Totals
Howard University	30	75	4	109
Idaho State College	44	50	1	95
University of Illinois	421	3	3	427
State University of Iowa	129	21	0	150
University of Kansas	68	15	0	83
University of Kansas City	44	16	4	64
University of Kentucky	101	5	1	107
Loyola University	47	7	3	57
University of Maryland	153	6	2	161
Massachusetts College	308	46	1	355
University of Michigan	87	22	3	112
University of Minnesota	101	2	1	104
University of Mississippi	140	18	1	159
Montana State University	52	5	0	57
University of Nebraska	35	2	1	38
New England College	88	51	2	141
University of New Mexico	55	28	3	86
University of North Carolina	237	10	2	249
North Dakota State University	130	85	4	219
Northeast Louisiana State	217	7	0	224
Ohio Northern University	251	18	1	270
Ohio State University	130	2	4	136
University of Oklahoma	111	32	3	146
Oregon State College	111	64	1	176
University of the Pacific	118	4	2	124
Philadelphia College	295	127	23	445
University of Pittsburgh	180	21	1	202
Purdue University	287	64	0	351
University of Rhode Island	48	25	0	73
Rutgers University	231	0	1	232
Med. Col. of So. Carolina	60	4	0	64
South Dakota State College	99	69	1	169
University of So. California	273	7	4	284
Southern College	108	55	0	163
Southwestern State College	115	57	2	174
University of So. Carolina	150	13	0	163
St. John's University	238	19	0	257
St. Louis College	161	174	3	338
Temple University	258	38	1	297
University of Tennessee	190	63	2	255
University of Texas	358	5	1	364
Texas Southern University	69	3	0	72
University of Toledo	100	5	0	105
University of Toronto	253	2	3	258
University of Utah	73	41	4	118
Med. Col. of Virginia	198	20	0	218

TABLE I (Continued)

School	From Their Own State	From Other States	From Foreign Countries	Totals
University of Washington	100	5	1	106
Washington State University	32	9	2	43
Wayne State University	196	0	4	200
University of West Virginia	82	5	0	87
University of Wisconsin	248	24	8	280
University of Wyoming	42	24	2	68
Xavier University	14	24	0	38
<i>Totals</i>	<i>11,689</i>	<i>2,238</i>	<i>161</i>	<i>14,088</i>

TABLE II

Undergraduate Student Distribution in Canadian and U.S. Schools

Alabama	Florida—1, Florida A. & M.—2, Howard University—1, Mississippi—2, Tennessee—1, Xavier—8
Alaska	Wyoming—1
Alberta	Toronto—1
Arizona	Idaho—1, New Mexico—1, South Dakota—1, St. Louis—1
Arkansas	Arizona—1, Auburn—2, Loyola—1, Mississippi—1, Nebraska—1, Northeast Louisiana—1, St. Louis—5, Tennessee—22, Texas—1, Kansas City—1
British Columbia	Toronto—1
California	Arizona—25, Colorado—8, Creighton—1, Ferris—1, Howard College—1, Idaho—40, Kansas City—1, Maryland—2, Michigan—1, Montana—4, New Mexico—14, No. Dakota—2, Oklahoma—1, Oregon—49, So. Dakota—1, Utah—26, Washington—3, Washington State—3, Wisconsin—1, Wyoming—9
Colorado	Arizona—1, California—1, Creighton—2, Idaho—1, Iowa—1, Mississippi—1, No. Dakota—1, Pacific—1, So. California—2, Wyoming—3
Connecticut	Arizona—1, Columbia—5, Duquesne—1, Florida—2, Ferris—1, Fordham—10, Georgia—1, Hampden—3, Massachusetts College—4, New England—15, Oregon—1, PCP—2, Purdue—1, Rhode Island—3, St. John's—1, Temple—1
Delaware	Fordham—1, Howard Univ.—1, New England—1, No. Carolina—1, PCP—15, Rhode Island—1, Temple—2
District of Columbia	Maryland—2, PCP—1, Purdue—1
Florida	Auburn—3, Butler—1, Fordham—1, Georgia—3, Houston—1, Howard College—9, Howard University—3, Massachusetts College—1, Minnesota—1, Oklahoma—1, Southern College—15, Virginia—1, Xavier—8
Georgia	Auburn—9, Florida—5, Florida A. & M.—2, Howard College—4, Howard University—4, So. Carolina—2, Tennessee—1, Xavier—3

TABLE II (Continued)

Hawaii	Drake—1, Oregon—6, Purdue—1, Southern California—1, Toledo—1, Washington State—1
Idaho	Montana—1, Oregon—1, Pacific—1, Utah—4, Washington State—3
Illinois	Arizona—2, Auburn—1, Butler—16, Cincinnati—2, Colorado—5, Creighton—8, Drake—60, Florida—1, Ferris—10, Howard College—1, Howard University—2, Idaho—1, Iowa—15, Michigan—1, Mississippi—1, No. Carolina—1, No. Dakota—1, Ohio Northern—4, Oklahoma—2, Purdue—29, Medical College of South Carolina—1, So. Dakota—3, Southern College—1, St. Louis—159, Tennessee—2, Toledo—1, Wisconsin—16, Wyoming—2
Indiana	Arizona—1, Colorado—2, Creighton—2, Drake—1, Florida—3, Howard University—1, Kentucky—3, No. Carolina—1, Ohio Northern—3, PCP—1, St. Louis—3, Utah—1, Cincinnati—3
Iowa	Colorado—2, Creighton—13, Florida—3, Kansas City—1, Michigan—1, No. Dakota—1, So. Dakota—10, St. Louis—1, Texas—1, Virginia—1, Wisconsin—3
Kansas	Creighton—3, Drake—2, Kansas City—12, Colorado—1, Howard University—1, New Mexico—2, No. Dakota—1, Oklahoma—4, Southwestern State—6
Kentucky	Auburn—2, Butler—4, Cincinnati—17, Howard College—6, Mississippi—1, Pittsburgh—1, Purdue—4, Southern College—1, St. Louis—1, Temple—1, Tennessee—11, Wisconsin—1
Louisiana	Colorado—1, Houston—9, Howard University—2, Mississippi—5, Oklahoma—1, Tennessee—1, Texas—2
Maine	Connecticut—17, Massachusetts College—22, New England—4, Rhode Island—1
Maryland	Cincinnati—2, Fordham—1, George Washington—1, Howard University—9, New England—1, PCP—2, Virginia—3
Massachusetts	Albany College—3, Arizona—1, Cincinnati—1, Connecticut—30, Fordham—3, Howard Univ.—1, PCP—2, Rhode Island—10, Temple—1, Texas—1, Utah—1
Michigan	Butler—1, California—1, Florida—1, Howard Univ.—1, Illinois—1, Minnesota—1, Ohio Northern—1, Oklahoma—1, Purdue—2, St. Louis—1, Toledo—2, Wyoming—2, Cincinnati—1
Minnesota	Creighton—1, Drake—2, New Mexico—1, No. Dakota—64, Oklahoma—1, Oregon—1, So. Dakota—46, Tennessee—1
Mississippi	Auburn—1, Florida—3, Georgia—1, Houston—1, Howard College—41, Howard Univ.—1, Northeast La.—4, Southern College—1, Tennessee—5, Xavier—4
Missouri	Colorado—1, Creighton—1, Drake—2, Howard Univ.—1, Iowa—2, Kansas—14, Michigan—1, Mississippi—1, Oklahoma—4, Purdue—1, Tennessee—6, Texas Southern—2

TABLE II (Continued)

Montana	No. Dakota—5, Tennessee—1, Wyoming—1
Nebraska	Colorado—1, Florida—1, New Mexico—1, So. Dakota—4, Southern Calif.—1, Southwestern State—1, Wyoming—4
Nevada	Idaho—3, Pacific—2, Utah—4
New Hampshire	Connecticut—13, Massachusetts College—12, New England—2, PCP—1
New Jersey	Albany College—3, Brooklyn—18, Buffalo—4, Colorado—1, Columbia—29, Connecticut—6, Duquesne—7, Florida—8, Ferris—1, Fordham—42, George Washington—2, Georgia—2, Howard Univ.—6, Iowa—2, Kansas—1, Massachusetts College—2, Michigan—2, New England—5, No. Carolina—3, Ohio—1, Oklahoma—2, PCP—95, Pittsburgh—1, Purdue—4, Rhode Island—2, St. John's—18, Temple—30, Virginia—2, W. Virginia—2, Wisconsin—1, Mississippi—1
New Mexico	Cincinnati—1, Florida—1, Oregon—2, Utah—1
New York	Arizona—2, Butler—1, Cincinnati—3, Connecticut—3, Duquesne—4, Florida—5, Ferris—1, Georgia—1, Houston—4, Howard Univ.—13, Michigan—7, New England—8, Ohio—1, Ohio Northern—1, Oklahoma—3, Oregon—1, PCP—5, Pittsburgh—2, Purdue—3, Rhode Island—8, Southern College—5, Temple—1, Tennessee—1, Toledo—1, Utah—1, Washington State—1, Wisconsin—1, Wyoming—1, Virginia—1
North Carolina	Auburn—1, Buffalo—1, Columbia—1, Florida—3, George Washington—1, Georgia—4, Howard University—4, Medical College of So. Carolina—3, So. Calif.—2, Southern College—9, Univ. of So. Carolina—10, Tennessee—2, Virginia—8, Xavier—1
North Dakota	Colorado—1, Creighton—1, Washington—1
Ohio	Butler—3, California—1, Columbia—1, Duquesne—14, Florida—1, George Washington—2, Howard Univ.—4, Illinois—1, Michigan—7, No. Carolina—1, No. Dakota—1, Oregon—1, Pittsburgh—16, Purdue—13, Virginia—1, Wisconsin—1
Oklahoma	Florida—1, Houston—1, Iowa—1, Kansas City—1, New Mexico—1
Oregon	California—1, Idaho—2, Massachusetts College—1, Utah—1, Washington State—1
Pennsylvania	Arizona—3, Buffalo—2, Cincinnati—1, Colorado—1, Columbia—1, Connecticut—3, Drake—2, Florida—5, Fordham—7, George Washington—2, Howard Univ.—3, Maryland—1, Michigan—1, New Mexico—1, Ohio Northern—5, So. Calif.—1, St. Louis—2, Tennessee—1, W. Virginia—3, Purdue—1
Rhode Island	Connecticut—1, New England—11

TABLE II (Continued)

South Carolina	Albany College—1, Auburn—6, Florida—1, Howard Univ.—4, New Mexico—1, No. Carolina—1, Southern College—3
South Dakota	Creighton—3, Florida—1, New Mexico—1, No. Dakota—1, Washington—1
Tennessee	Auburn—3, Georgia—4, Howard College—36, Howard Univ.—1, Michigan—1, Mississippi—5, Purdue—2, Southern College—16, Texas Southern—1, Virginia—1
Texas	Arizona—1, Drake—1, Fordham—1, Howard Univ.—2, Loyola—5, New Mexico—5, Northeast La.—2, Oklahoma—12, Southwestern State—50, Tennessee—1, Virginia—1
Utah	Georgia—1, Idaho—1
Vermont	Albany—3, Connecticut—5, Massachusetts College—4, New England—3
Virginia	Auburn—3, Florida—3, Fordham—1, Howard Univ.—8, Kentucky—1, Maryland—1, New England—1, No. Carolina—2, PCP—1, Southern College—4, Temple—1, Tennessee—7, Wyoming—1
Washington	Arizona—1, Florida—1, No. Dakota—1, Oregon—2, So. Dakota—1
West Virginia	Cincinnati—11, Colorado—1, Duquesne—4, Florida—1, Howard Univ.—2, Kentucky—1, Ohio Northern—4, Pittsburgh—1, Univ. of So. Carolina—1, Virginia—1, Temple—1
Wisconsin	Arizona—1, Creighton—3, Florida—2, Ferris—1, Fordham—1, Houston—1, Illinois—1, Loyola—1, Nebraska—1, No. Dakota—7, PCP—2, Purdue—2, So. Dakota—3, St. Louis—1
Wyoming	Arizona—1, Idaho—1, Utah—2
Total	2,238

TABLE III
Undergraduate Foreign Student Distribution

Bermuda	Albany—1
Bulgaria	Maryland—1
Cambodia	George Washington—1, New Mexico—1, Texas—1
Canada	Auburn—1, Buffalo—3, California—1, Drake—1, Florida—1, Kansas City—1, New England—1, New Mexico—1, North Dakota—3, Ohio Northern—1, Pacific—1, Southern California—1, Washington State—2, Wayne—3
China	Fordham—1, Idaho—1, Ohio—1, Oregon—1, Wisconsin—2
Colombia	Illinois—1, PCP—1
Cuba	Toronto—1
Denmark	California—1
Egypt	California—1, Houston—2, Kansas City—1, Southern California—1, Wisconsin—1
France	Fordham—1
Germany	California—1, Fordham—1, Howard College—1, Loyola—1

TABLE III (Continued)

Greece	New England—1
Guatemala	California—1, Southwestern Louisiana State—1
Haiti	Duquesne—1
Holland	California—1
Honduras	Tennessee—1
Hong Kong	Brooklyn—1, California—6, Michigan—2, North Carolina—1, Oklahoma—1, PCP—4, Wisconsin—1
Hungary	Illinois—1, Southwestern Louisiana State—1, Wyoming—1
India	Loyola—1, Ohio—1, PCP—9, St. Louis—2, Utah—3, Washington—1, Wisconsin 2
Indonesia	Arizona—1
Iran	Brooklyn—1, California—2, Connecticut—1, Houston—1, North Dakota—1, Oklahoma—1, PCP—1, Temple—1, Utah—1, Wisconsin—1
Iraq	Southern California—1
Ireland	Pittsburgh—1
Israel	California—1, Fordham—1, Massachusetts College—1
Italy	Butler—1, Loyola—1, Pacific—1, Rutgers—1
Jamaica	Howard University—2, PCP—1
Jordan	PCP—1, Kentucky—1, New Mexico—1, Tennessee—1, Wayne—1, Cincinnati—2
Korea	Minnesota—1, Nebraska—1, Ohio—1, PCP—3, South Dakota—1, Fordham—1
Lebanon	Cincinnati—1
Lithuania	Maryland—1
Nicaragua	Arkansas—1
Nigeria	Creighton—1, Howard University—1, Kansas City—1, Oklahoma—1, Wyoming—1
Pakistan	Ohio—1, PCP—2, St. Louis—1, Toronto—2
Peru	North Carolina—1
Poland	Brooklyn—1, Southern California—1
Puerto Rico	Mississippi—1
Syria	Arizona—1, Michigan—1
Thailand	Butler—1
Trans Jordan	Kansas City—1
Turkey	Houston—1
Venezuela	Columbia—1, Houston—1, PCP—2, Wisconsin—1
Virgin Islands	Howard University—1
Wales	Arizona—1
Yemen	Albany—1
Yugoslavia	Illinois—1
Total	161

TABLE IV
Geographical Distribution of Graduate Students
Enrolled in Member Colleges, 1960-1961

School	From Their Own State	From Other States	From Foreign Countries	Totals
University of Alberta	4	0	0	4
University of Arizona	2	3	0	5
Auburn University	4	0	1	5
Brooklyn College	42	2	0	44
University of Buffalo	2	3	5	10
Butler University	12	3	0	15
University of California	8	3	13	24
University of Cincinnati	1	0	0	1
University of Colorado	3	3	1	7
Columbia University	14	0	11	25
University of Connecticut	4	12	3	19
Drake University	1	0	0	1
Duquesne University	5	1	2	8
University of Florida	2	9	3	14
University of Houston	2	0	0	2
University of Illinois	20	3	4	27
University of Iowa	7	9	15	31
University of Kansas	4	10	7	21
University of Kansas City	3	2	1	6
University of Maryland	16	17	11	44
Massachusetts College	16	3	2	21
University of Michigan	8	30	19	57
University of Minnesota	8	8	10	26
University of Mississippi	1	4	3	8
Montana State University	1	0	0	1
University of Nebraska	1	1	5	7
University of No. Carolina	3	5	9	17
North Dakota State University	12	0	0	12
Ohio State University	12	17	11	40
University of Oklahoma	2	0	0	2
Oregon State College	4	1	2	7
University of the Pacific	1	0	0	1
Philadelphia College	15	4	15	34
University of Pittsburgh	19	6	0	25
Purdue University	15	49	9	73
University of Rhode Island	7	8	3	18
Rutgers University	13	7	3	23
Med. Col. of So. Carolina	1	1	0	2
So. Dakota State College	2	0	0	2
Univ. of So. California	10	3	6	19
St. John's University	11	1	0	12
St. Louis College	2	3	9	14
Temple University	13	8	1	22

TABLE IV (Continued)

School	From Their Own State	From Other States	From Foreign Countries	Totals
University of Tennessee	2	0	0	2
University of Texas	3	3	4	10
University of Toronto	6	0	5	11
University of Utah	4	6	0	10
Med. Col. of Virginia	5	5	2	12
University of Washington	5	8	7	20
Washington State University	4	2	4	10
Wayne State University	13	0	0	13
University of Wisconsin	10	31	32	73
<i>Totals</i>	<i>385</i>	<i>294</i>	<i>238</i>	<i>917</i>

TABLE V

Graduate United States Student Distribution

Alabama	Florida—2, Maryland—1, Mississippi—1
Arkansas	Iowa—1, Minnesota—1, Purdue—2, Rhode Island—1
California	Oregon State—1, Texas—1, Utah—3
Colorado	Connecticut—1, Maryland—1
Connecticut	Michigan—3, Temple—1
District of Columbia	Maryland—1, Ohio State—1
Florida	Arizona—1, Iowa—1, Ohio State—1, Pittsburgh—1
Georgia	Florida—2
Hawaii	Utah—1
Idaho	Washington State—1, Wisconsin—3
Illinois	Arizona—1, Buffalo—2, California—1, Kansas—1, Minnesota—1, Ohio State—1, PCP—1, St. Louis—2, Wisconsin—2
Indiana	Illinois—1, Michigan—1, Med. Col. of Virginia—1, Washington—1
Iowa	Purdue—2, Southern California—1, Washington—1
Kansas	Kansas City—1, Michigan—6
Kentucky	Florida—1
Louisiana	Pittsburgh—1, Southern California—1, Wisconsin—1
Maine	Massachusetts College—1
Maryland	California—1, Med. Col. of Virginia—1
Massachusetts	Connecticut—1, Iowa—1, Maryland—1, North Carolina—2, Purdue—2, Rhode Island—2, Utah—1
Michigan	Butler—1, Colorado—1, Minnesota—1, Ohio State—1, Purdue—4, Wisconsin—1
Minnesota	Colorado—1, Duquesne—1
Mississippi	Florida—1
Missouri	Kansas—1, Purdue—5
Montana	Washington—2, Wisconsin—1
Nebraska	Washington—1, Wisconsin—1
Nevada	Minnesota—1
New Hampshire	Wisconsin—1
New Jersey	Buffalo—1, Brooklyn—2, Kansas City—1, Maryland—1,

TABLE V (Continued)

	Michigan—4, Ohio State—3, PCP—2, Purdue—2, Rhode Island—1, St. John's—1, St. Louis—1, Temple—5, Wisconsin—5
New York	California—1, Connecticut—6, Florida—2, Illinois—1, Iowa—5, Kansas—1, Maryland—4, Massachusetts College—1, Michigan—7, North Carolina—1, Ohio State—4, Pittsburgh—1, Purdue—11, Rhode Island—4, Rutgers—7, Temple—2, Utah—1, Med. Col. of Virginia—2, Wisconsin—7
North Carolina	Connecticut—1
Ohio	Connecticut—1, Kansas—1, Maryland—1, Michigan—3, Pittsburgh—2, Purdue—8
Oklahoma	Texas—1
Oregon	Connecticut—1, Washington—1
Pennsylvania	Butler—1, Florida—1, Illinois—1, Maryland—5, Michigan—4, North Carolina—1, Ohio State—3, Purdue—6, Texas—1, Wisconsin—6
Rhode Island	Connecticut—1, Maryland—1, Minnesota—1, Purdue—1, Washington—1, Wisconsin—3
South Carolina	North Carolina—1, Ohio State—1, Purdue—1
South Dakota	Massachusetts College—1, Michigan—1, Purdue—2
Tennessee	Mississippi—3
Texas	Colorado—1, Iowa—1, Minnesota—1, Nebraska—1
Utah	Michigan—1
Virginia	PCP—1, Southern California—1, Med. Col. of South Carolina—1
West Virginia	Maryland—1, Pittsburgh—1, Purdue—1, Med. Col. of Virginia—1
Wisconsin	Arizona—1, Butler—1, Kansas—6, Minnesota—2, Ohio State—2, Purdue—2
Wyoming	Washington—1, Washington State—1
Total	294

TABLE VI
Graduate Foreign Student Distribution

Argentina	Wisconsin—1
Austria	North Carolina—1
Bolivia	Wisconsin—1
Canada	Buffalo—1, Iowa—1, Michigan—2, Minnesota—2, Ohio—1, Purdue—4, Rhode Island—2, Washington—1, Wisconsin—1
China	California—1, Columbia—2, Iowa—2, Maryland—1, Nebraska—2, North Carolina—2, Purdue—1, Wisconsin—4
Colombia	PCP—1, Wisconsin—1
Costa Rica	Kansas—1, Maryland—1
Cuba	Maryland—1, PCP—1
Dominican Republic	Univ. of Southern California—1
Egypt	Florida—1, Michigan—1, Minnesota—2, Ohio—5, PCP—

TABLE VI (Continued)

	1, Wisconsin—1
England	Univ. of California—1, Maryland—1
Formosa	Mississippi—1
Ghana	Massachusetts College—1
Greece	Wisconsin—2
Hong Kong	Univ. of California—2, Duquesne—1, Michigan—2, Ohio—1, Univ. of Toronto—4
Iceland	North Carolina—2
India	Auburn—1, Univ. of California—6, Buffalo—3, Colorado—1, Columbia—5, Connecticut—2, Duquesne—1, Florida—2, Illinois—1, Iowa—8, Kansas—2, Maryland—4, Michigan—8, Minnesota—3, Nebraska—2, Ohio—3, Oregon—1, PCP—6, Purdue—3, Rutgers—2, Univ. of Southern California—1, St. Louis—6, Texas—4, Univ. of Washington—3, Washington State—4, Wisconsin—8, Mississippi—1
Iran	Univ. of California—1, Michigan—1, Mississippi—1, North Carolina—1, Wisconsin—1
Iraq	Kansas—2, Ohio—1, St. Louis—1
Israel	Kansas—1, PCP—1
Italy	Wisconsin—1
Japan	Univ. of California—1, Columbia—1, Kansas City—1, Maryland—1, Med. Col. of Virginia—1, Wisconsin—3
Korea	Buffalo—1, Columbia—2, Connecticut—1, Iowa—2, Nebraska—1, North Carolina—2, Univ. of Southern California—1, Wisconsin—1
Lebanon	Univ. of Southern California—1, Med. Col. of Virginia—1, Univ. of Washington—1
Malaya	North Carolina—1
Norway	Kansas—1, Univ. of Washington—1
Okinawa	Minnesota—1
Panama	Temple—1, PCP—1
Philippines	Illinois—3, Iowa—2, Maryland—1, Minnesota—1, PCP—1, Rhode Island—1, Rutgers—1, Univ. of Southern California—1, St. Louis—2
Singapore	Univ. of Washington—1
South Africa	Michigan—1
Sweden	Purdue—1
Switzerland	Univ. of California—1
Syria	Maryland—1, Wisconsin—1
Thailand	Michigan—1, Oregon—1, PCP—2, Univ. of Toronto—1, Wisconsin—2
Turkey	Minnesota—1
U.A.R.	Columbia—1, Univ. of Southern California—1, Wisconsin—4
Venezuela	Massachusetts College—1, Michigan—3
West Pakistan	PCP—1
Total	238

GRADUATE ENROLLMENT DATA, SEPTEMBER, 1960 AND GRADUATE STUDY IN MEMBER COLLEGES, 1961-1962

The sixth annual report on graduate study was prepared this year for the first time by the Committee on Graduate Programs under the chairmanship of Dean E. A. Brecht. The first five reports had been compiled by the Committee on Recruitment Aids, the first three by Richard A. Deno and the next two by Lloyd M. Parks. The report has been mailed to deans, librarians, department heads, and prospective graduate students in member colleges. The report includes graduate enrollment data for September, 1960, and carries brief statements addressed to prospective graduate students describing the major areas of professional graduate study in colleges of pharmacy. The Canadian colleges which have graduate programs are not included in the data, and neither are the five American colleges with definite but incomplete plans for graduate programs. A summary of certain data from the report is included here, along with tables showing (1) graduate enrollment data for the current year, and (2) the member colleges that will be offering programs in one or more professional areas in 1961-62.

Abbreviations used in the tables are: M for Master of Science; D for Doctor of Philosophy (rarely, Doctor of Science); * for graduate program available to students with a B.S. in pharmacy but offered in departments of the parent university other than its college of pharmacy; # for industrial pharmacy; + for history of pharmacy; = for medicinal chemistry; and S for special students not candidates for a degree.

Fifty-three member colleges in the United States are listed as having graduate programs available for 1961-62 in one or more areas of professional instruction.

Fifty-one of these colleges reported one or more graduate students enrolled in September, 1960. Four hundred seventy-two students were candidates for the M.S. degree; 378 for the Ph.D. degree, and thirty-five were special students. An additional nine pharmacists were M.S. candidates and thirty-four were Ph.D. candidates in other departments of parent institutions, making a total of 481 M.S. candidates, 412 Ph.D. candidates, and thirty-five special students engaged in professional graduate study in institutions having member colleges of pharmacy. The grand total is 928, fifty-six more than in September, 1959. Seven hundred and one of these students were from the United States, thirteen from Canada, and 214 from other countries.

Thirty-nine colleges report that one or more types of local financial aids will be available to *new* graduate students in 1961-62. There will be available at least 119 fellowships and scholarships, eighty-four assistantships, and twenty-eight internships in hospital pharmacy for new graduate students. This is an increase of seventeen local aids to new graduate students over a year ago. The local aids do not include a considerable number of AFPE fellowships which will be available. The Foundation, in fact, is the largest single source of fellowships in support of graduate study in phar-

macy. More than seventy Foundation Fellowships probably will be awarded for 1961-62. Also to be added are general university scholarships, fellowships, and other aids for which graduate students in member colleges may apply.

A majority of the fellowships and scholarships available provide stipends between \$1860 and \$2400; the assistantships between \$1600 and \$2100; and the internships between \$2300 and \$3000. Fellowships, scholarships, and assistantships demand, on the average, twelve to twenty hours per week of the recipient's time, while interns generally must give twenty to twenty-four hours of their time per week. Remission of tuition and non-resident fees is variable.

Seventeen member colleges report that a total of forty-nine post-doctoral

grants specifically for their colleges will be available in 1961-62, with stipends varying from \$5500 to \$6000. This is an increase of twenty-five such grants over a year ago, and an increase of thirty-eight in the last two years.

A list of administrative officers with their college addresses to whom inquiry should be directed for further data on programs, entrance and graduation requirements, and financial aids of a specific college is given in the complete report. Additional copies of the complete report are available from the Secretary, AACP, School of Pharmacy, George Washington University, Washington 6, D.C.

E. A. Brecht, Chairman
Committee on Graduate Programs

TABLE I
Graduate Enrollment, September, 1960

Member College	Phcy.	Ph. Ch.	Pheog.	Pheol.	Ph. Ad.	Hos. Ph.	Total
Auburn U.	1M	2M		1M			4M
U. Arizona		3D		1M1D			1M4D
U. of Pacific				1M			1M
U. California		5M17D1S					5M17D1S
U. So. California	5M1D	2M1D	1M	1M		5M	14M2D
U. Colorado		1M		2M1D	1M1D		4M2D
U. Connecticut	1M5D	3D	1M4D	2M1D			4M13D
G. Washington U.				1M*1D*	1M*		2M*1D*
U. Florida	1M4D	4D		3D		1M	2M11D
U. Georgia	3M	2M		1M			6M
U. Illinois	2M	10M12D		1M*2D*			12M1M*12D2D*
Butler U.	1M	4M		5M		1M	11M
Purdue U.	8M18D	7M12D	1M2D	10M8D	1M3D	1M	28M43D
Drake U.				1M			1M
S. U. Iowa	4M8D	4M2D	1D	2D*		10M	18M11D2D*
U. Kansas	1M2S	2M12D2S	1M	3M			7M12D4S
U. Maryland	10M3D	8M3D		1M			19M6D
Massachusetts C. P.	4M2D1S	4M2D1S	2M	3M1D		2M	15M5D2S
U. Michigan	5M12D	3M22D	1M1D	12D*		9M	18M35D12D*
Wayne S. U.	1S		1M	4M1S	2M	4M	11M1S
U. Minnesota	1M3D	2M15D		5D*			3M18D5D*
U. Mississippi	2M	3M3D					5M3D
St. Louis C. P.	10M#					3M1S	13M1S
U. Kansas City		2M1D		2M2D			4M3D
Montana S. U.	1M						1M
U. Nebraska		1M	2M1D	1D		2M	5M2D
Rutgers—S. U.	4M7D	4M6D		2M			10M13D
Brooklyn C. P.					40M2D4S		40M2D4S
Columbia U.	12M7S	9M2D4S		3M1S			24M2D12S
St. John's U.	3M	5M		4M			12M
Albany C. P.				5D*			5D*
U. Buffalo		1M10D=					1M10D
U. No. Carolina	6M1D	7M3D			1M*		13M1M*4D
North Dakota S. U.	1M	1D		1M		10M	12M1D
Ohio S. U.	4M5D	8M2D	3M1D	9M4D	1M	2M	27M12D
U. Cincinnati		1M					1M
U. Oklahoma	1S			1M			1M1S
Oregon S. C.	2M1D	1M		3M			6M1D
Duquesne U.	1M	1M		4M		2M	8M
Philadelphia C. P.	12M5D2S	2D	2D	7M6D		3M1S	22M15D3S
Temple U.	6M5D	2M1D		3M1D			11M7D
U. Pittsburgh	7M4D		2M	3M6D	2M3D		14M13D
U. Rhode Is.	1M2D	3M2D	1M3D1S	3M2D	1M*		8M1M*9D1S
So. Dakota S. C.		2M					2M
U. Tennessee	1M	2M		1M*1D*		1M	4M1M*1D*
U. Texas	2M3D	1M1D		1M		2M	6M4D
U. Utah	3D	3D	2D	4D	2M		2M12D
M. C. Virginia		7D		5D*			7D5D*
U. Washington	3M1D2S	6M4D	2M2D	3M*1D*		2M	13M3M*7D1D*2S
Washington S. U.	1M1D	2M4D	1D	1M			4M6D
U. Wisconsin	6M30D3S+	6M20D			7M4D		19M54D3S
Total Masters	132	123	18	83	56	60	472
Total Doctors	124	180	20	41	13	0	378
Total Special	18	8	1	2	4	2	35
Total Masters*	0	0	0	6	3	0	9
Total Doctors*	0	0	0	34	0	0	34
Grand Total	274	311	39	166	76	62	928

TABLE II
Graduate Programs Available, 1961-1962

Member College	Phcy.	Ph. Ch.	Phcog.	Phcol.	Ph. Ad.	Hos. Ph.
Auburn U.	M	M	M	M		
U. Arizona	M	MD	MD	MD	M	M
U. of Pacific	M	M		M		
U. California		MD		M*D*		
U. So. California	MD	MD	MD	M		M
U. Colorado	MD	MD	MD	MD	MD	M
U. Connecticut	MD	MD	MD	MD		
G. Washington U.				M*D*	M*D*	
U. Florida	MD	MD	MD	MD		M
U. Georgia	M	MD*		M		
U. Illinois	M	MD	M	M*D*		
Butler U.	M	M		M		M
Purdue U.	MD	MD	MD	MD	MD	M
Drake U.				M		
S. U. Iowa	MD	MD	MD	M*D*	M*D*	M
U. Kansas	M	MD	M	MD*		
U. Maryland	MD	MD	M	MD		M
Massachusetts C. P.	MD	MD	M	MD	M	M
U. Michigan	MD	MD	MD	M*D*	M*D*	M
Wayne S. U.	M	M	M	M	M	M
U. Minnesota	MD	MD	MD	M*D*	M*D*	M
U. Mississippi	M	MD				
St. Louis C. P.	M#					M
U. Kansas City	M	MD		MD		
Montana S. U.	M	M	M	M		
U. Nebraska	MD	MD	MD	MD		M
Rutgers—S. U.	MD	MD		M		
Brooklyn C. P.					MD	
Columbia U.	MD	MD	M	MD*		
St. John's U.	M	M		M		
Albany C. P.				D*		
U. Buffalo	M	MD=		M*D*		
U. No. Carolina	MD	MD		M*D*		
North Dakota S. U.	M	MD	M	M		M
Ohio S. U.	MD	MD	MD	MD	MD	M
U. Cincinnati		M				
U. Oklahoma	M	M	M	MD*		
Oregon S. C.	MD	MD	MD	MD	MD*	M
Duquesne U.	M	M	M	M		M
Philadelphia C. P.	MD	MD	MD	MD		M
Temple U.	MD	MD		MD		M
U. Pittsburgh	MD		M	MD	MD	M
U. Rhode Is.	MD	MD	MD	MD	M*	
Med. Coll. S. Car.				M*D*		
So. Dakota S. C.	M	M				
U. Tennessee	MD	MD	MD	M*D*		M
U. Houston			M			
U. Texas	MD	MD	MD	MD	MD*	M
U. Utah	MD	MD	MD	MD M*D*	MD*	
M. C. Virginia	MD	MD		D*		M
U. Washington	MD	MD	MD	M*D*		M
Washington S. U.	MD	MD	MD	MD		
U. Wisconsin	MD+	MD	MD	MD	MD	M

REPORT OF THE DELEGATE TO THE HOUSE OF DELEGATES AMERICAN PHARMACEUTICAL ASSOCIATION

The House of Delegates met on two occasions during 1960. The interim meeting was held in Washington, D.C., on March 27 and 28, immediately preceding the Decennial Meeting of the United States Pharmacopeial Convention. The regular Annual Meeting of the House was held in Washington, D.C., during the week of August 14. Resumes of both meetings have been published in the *Journal of the American Pharmaceutical Association* in the May and September issues of the *Practical Edition*. This report will epitomize only those aspects of the deliberations deemed of interest and importance to pharmaceutical education.

INTERIM MEETING

Recruitment of Students

A recruitment brochure prepared by the A.Ph.A. staff entitled *See Your Future in Pharmacy*, was distributed to the delegates. The brochure will be distributed by the National Advisory Commission on Careers in Pharmacy in addition to other recruitment information formerly distributed by the AACP. The Commission conducted its first meeting on March 11, 1960, with representatives of the AACP in attendance. The recruitment value of the A.Ph.A.'s participation in the National Science Fair was referred to in President Newton's remarks and was also referred to in the address of the Chairman of the House, Mr. J. Warren Lansdowne.

H.R.6906 and S.2170 Bills

A.Ph.A. support of these bills, both of which are enabling bills for construction of educational facilities in the health professions in which colleges of pharmacy were not originally included,

with provisions for the inclusion of pharmacy, was announced in the Report of the Council to the House.

Poison Control Activities

The Chair called attention to the excellent March 1960 issue of the *Practical Edition* of the *Journal* which featured articles on poison prevention and control. The articles will no doubt be of much value to educators and others concerned with the establishment and operation of poison control centers.

Mail Order Prescription Schemes

Reports and discussion of mail order prescription abuses were among the most important items on the agenda. The actions of the A.Ph.A. to expose such schemes as detrimental to the public health were reported. It was suggested that such practices be declared unethical and that the Code of Ethics of the A.Ph.A. be revised to include such a statement. It was also suggested that the Federal Food, Drug, and Cosmetic Act be amended to declare them illegal.

Membership and Membership Dues

Members of the House were reminded of the great need for increased membership in the Association. The House approved an action by the Council which recommended an increase in dues from \$15.00 to \$25.00 per year.

Establishment of Legal Division

Dr. William S. Apple announced the appointment of Raymond J. Dauphinais as Director of the Legal Division of the A.Ph.A.

Medical Care for the Aged and Indigent

A resolution reaffirming the importance of an accelerated program to

study prepaid prescription plans was passed by the House. The House also requested that the Council provide the funds necessary to finance such a study.

Kefauver Hearings

A panel discussion of the drug price hearings informed members of the House of the profession's rebuttal to charges of excessive drug prices. A resolution urging continued opposition to attempts which would impose additional and unwarranted controls on drug manufacturing was passed.

Control of the Sale of De-Legendized Drugs

A resolution was passed which embodied the general proposition that de-legendized drugs should continue to be dispensed only by or under the personal supervision of a registered pharmacist. The House also recommended that the Association seek legislation to implement the proposition.

ANNUAL MEETING

Professional Adequacy in Armed Forces Pharmacy Service

In order to assure standards of practice within the armed forces commensurate with civilian requirements as to educational standards, facilities, and other criteria established by boards of pharmacy for licensure of pharmacists and pharmacies, the House adopted the following resolution: "Be it resolved that all armed forces pharmacies and dispensaries be operated under the direct, personal supervision of a graduate pharmacist and that all armed forces pharmacies invite the inspection of the state board of pharmacy of the state in which located as to adequacy and competence of personnel and facilities used in providing pharmaceutical services." This action was deemed necessary because of Medicare and similar programs which provide medical care for civilian dependents of armed forces personnel.

Constructive Service Credit for Five-Year Graduates

In recognition of the advanced level of professional education provided by the five-year program, it was resolved that the A.Ph.A. bring this matter to the attention of all civil and military agencies of government employing or accepting services of five-year graduates. It was further resolved that such recognition might be accomplished by appropriate pay scale positions in the civil services and by award of "constructive credit" in pay and promotion equivalent to a year's service in the armed forces.

Internship and Residency Problems in Government Service

It was resolved by the House that the Assistant Secretary of Defense for Health and Medical, the respective Surgeons General of the Army, Navy, and Air Force, the Surgeon General of the United States Public Health Service, and the Director of the Department of Medicine and Surgery, Veterans Administration receive an expression of our thanks for their interest in and encouragement of professional advancement; and it was further resolved that all organizations in pharmacy continue to support expansions of these residency and intern programs toward the ultimate perfection of government pharmaceutical service.

Status of Pharmacists in the Government Service

Separate resolutions calling for "Star" or "Flag" rank for chiefs of Medical Service Corps and for the rank of assistant surgeon general for the chief pharmacy officer of the USPHS were adopted by the House.

The following four-point resolution concerning graduate and commissioned pharmacists in the Armed Forces was adopted:

1. Allocation of commissioned phar-

macy officers to each and every activity where the art and science of pharmacy is practiced.

2. Offering of commissioned officer status to each graduate pharmacist entering the service through the operation of selective service.
3. Assuring full career and promotional opportunity to the practicing, commissioned pharmacy graduate as is open to the medical, dental, and veterinary professions.
4. Discontinuing the operation of "pharmacy technician" schools and "on the job training" of "pharmacist helpers" as rapidly as results are obtained from the fully-commissioned graduate pharmacist program.

This resolution embodies the spirit of a resolution submitted to the House by the AACP delegate. An additional resolution from the 1960 AACP Meeting endorsing the appointment of an Advisory Committee to the Medical Service Corps of the Army, Navy, and Air Force was received by the Committee on Resolutions of the A.Ph.A., but no action was taken.

Integrated Membership Structure

On the basis of recommendations by President Newton and Chairman Lansdowne, the A.Ph.A. Council was authorized to negotiate reciprocal membership agreements with state associations.

Committee on Permanent Organization

The House authorized the appointment of the above committee to study the internal structure of the A.Ph.A. In addition to the customary responsibilities of a Committee on Permanent Organization (Reorganization), the Committee is charged with the study of formal rules of procedure for the House of Delegates.

Socio-Economic Aspects of Medical Care

The following abstract is taken from

the address of the Chairman of the House of Delegates:

"During the last session of the House, a resolution was passed recommending that a crash study be made of various prepaid prescription plans, insurance programs containing pharmaceutical service clauses, also other socio-economic programs involving prescription service. This resolution was referred to the Committee on Social and Economic Relations whose action cannot help but be hampered by the lack of funds—also, lack of time since the Committee members have other obligations in the pursuit of their careers.

"I recommend that this House of Delegates authorize the headquarters staff, guided by the forthcoming report of the Social and Economic Relations Committee to institute without delay a comprehensive study of socio-economic programs which include pharmaceutical service of any nature or description, such as social welfare programs, aid for aged, retired persons, medical care programs, local, state, and federal programs for aged and indigent, etc. . ."

Counterfeit Drugs

The House requested increased vigilance by Federal and State authorities to curb the nefarious practice of manufacture and distribution of counterfeit drugs.

New Director of the Scientific Division of the A.Ph.A.

At the third and final session of the House of Delegates, tribute was paid to Dr. Justin L. Powers, director of revision of the *National Formulary* and editor of the *Scientific Edition* of the *Journal of the American Pharmaceutical Association*. Dr. Edward Feldmann will succeed Dr. Powers in both capacities and has been named director of the Scientific Division.

John G. Adams, Delegate

**SUMMARY OF THE SIXTY-FIRST
(1960)
ANNUAL MEETING**

The sixty-first annual meeting of the American Association of Colleges of Pharmacy was held July 3 and 4 at Boulder, Colorado. Seventy-two member colleges were represented.

Guest speakers were Dr. William S. Apple, secretary, American Pharmaceutical Association, and Dr. Ernest M. Allen, chief, Research Grants, National Institutes of Health, U. S. Public Health Service. Dr. Apple's subject was "Missing Links in Pharmaceutical Education" and that of Dr. Allen "The Potential Role of the Public Health Service in Research in Colleges of Pharmacy." These addresses will appear in a subsequent issue of the *Journal*.

Inasmuch as the winter issue of the *Journal* includes the complete reports of the various committees, including that of the Committee on Resolutions, no summary of these reports is included.

The following items were considered in Executive Session:

1. An application for membership from the College of the Pacific.

The Executive Committee recommended the College for mem-

bership and, after waiving the requirement of a roll call vote by unanimous consent, the application was approved by majority voice vote.

2. A proposal to raise the annual dues from \$200 to \$500, effective August 1, 1961, by changing Article II of the Bylaws. (For the exact wording of the proposal, see the report of the Committee on Constitution and Bylaws.)

By written ballot the proposal was approved by a vote of fifty-four to fifteen.

The following officers were elected:

President: Henry M. Burlage

Vice President: Lloyd M. Parks

Secretary-Treasurer:

Charles W. Bliven

Chairman, Executive Committee:

Harold G. Hewitt

Members, Executive Committee:

John G. Adams and

Melvin R. Gibson

Charles W. Bliven,
Secretary-Treasurer.

REMINGTON HONOR MEDAL CITATION FOR
IVOR GRIFFITH**

Dr. Ivor Griffith, the 1960 Remington Medalist, has achieved a unique pharmaceutical distinction with respect to both our profession and the public.

His unusual attainment in connection with pharmacy is evidenced by the many responsible national positions he has held. For example, he has served as president of the American Pharmaceutical Association, as editor of the A.Ph.A.'s *Pharmaceutical Recipe Book*, and as a leading contributor to the *United States Dispensatory*.

As a top-ranking pharmaceutical educator and administrator, Dr. Griffith has built the Philadelphia College of Pharmacy and Science—an independent and unaffiliated institution—into one which provides a substantial liberal arts program to support the scientific and professional curriculum of that college. He accomplished this at the same time that he brought PCP out of heavy indebtedness onto a solid financial footing.

Dr. Griffith served as a member of the Pharmacy Committee of the National Research Council from 1943 to 1946, and was the founder of the National Quinine Pool of the War Production Board in the early years of World War II.

In public life, Dr. Griffith has been an outstanding leader in civic and community affairs. He is an active Rotarian and member of the Union League of

Philadelphia. A number of years ago, Dr. Griffith published a collection of his poems, essays, speeches, and thoughts in two volumes titled *Lobscows* and *To The Lilacs*. Commenting on the two books, the *Philadelphia Inquirer* stated that they are indicative of "a man of gentle humor, faith and deep humility."

Dr. Griffith has served as a convincing spokesman for pharmacy, whether addressing a pharmaceutical group or a civic club, because of his dignified and inspiring language. He is a "weaver of words" which clearly express in a colorful yet direct manner his great sense of integrity. He has always willingly devoted the necessary personal time and effort to worthwhile projects in the interest of public health. In this connection his addresses to civic and public health groups have attracted attention throughout the United States, as well as abroad.

It is only natural that the Remington Medal Award Committee selected Dr. Ivor Griffith, teacher, lecturer, author, scientist, and civic leader to receive pharmacy's highest award. I am sure Dr. Joseph P. Remington is proud of his disciple, Dr. Ivor Griffith, the 1960 Remington Medalist.

Ivor Griffith, on behalf of the New York Branch of the American Pharmaceutical Association, it is my distinct pleasure to present you with the 1960 Remington Medal. My congratulations.

*Dean Emeritus, Brooklyn College of Pharmacy

**Presented at the Remington Medal Dinner, December 7, 1960, New York City.

Executive Committee

MINUTES OF THE INTERIM MEETING

Hotel Bismarck, Chicago, Illinois

November 10 - 11, 1960

The meeting was called to order by Chairman Hewitt, November 10 at 9:10 A.M.

Present: Chairman Harold G. Hewitt; President Henry M. Burlage; Vice President Lloyd M. Parks; Members John G. Adams, Melvin R. Gibson, George P. Hager, Kenneth L. Waters; Editor-elect C. Boyd Granberg; Secretary-Treasurer Charles W. Bliven.

Chairman Hewitt was present for the November 10 sessions only. President Burlage was voted chairman pro tem for the November 11 meeting.

1. Approval of Minutes of the Annual, the Post-Convention, and Special Meetings.

The minutes of the annual and the post-convention meetings were not available for action. The minutes of the two special meetings held in Washington, D.C., in August were approved.

2. Proposals for Additions to the Agenda.

Several items were proposed and added with the assent of the Committee.

3. Communications.

a and b. The Secretary presented letters from the Surgeons General of the U.S. Air Force and the U.S. Navy relative to pharmacy specialist courses in their respective Services. These were in reply to letters from Secretary Webster pursuant to an Association resolution (see Resolution 15 this *Journal*, 24, 36(1960)).

The response from the Air Force stated that the course for pharmacy specialists had been reopened because graduate pharmacists have failed to enlist in adequate numbers and because office spaces do not permit the commissioning of sufficient personnel to meet their needs. The response from the Surgeon General of the Navy was essentially the same. In the Air Force, the specialist "... works under the

supervision of a commissioned, enlisted or civilian registered pharmacist or under the supervision of either a Medical Officer or a Medical Service Corps Officer who has a speciality in Pharmacy . . ."

Following discussion, *it was moved*, Hager-Adams, that the letters be transmitted to the Committee on Status of Pharmacists in the Government Service, the Committee to request that all specialists trained in pharmacy technician courses serve under registered pharmacists and that all pharmaceutical services be under the supervision of registered personnel. The motion was passed.

c. The Secretary reviewed a letter from the Director, Legal Division, A.Ph.A., in clarification of the "reciprocity" law in New York.

It was moved, Adams-Waters, that the Secretary of the New York State Board of Pharmacy be requested to send an explanatory statement regarding this law to each college and school of pharmacy and to each board of pharmacy, if this has not been done. The motion was passed.

d. Equivalency of Bachelor of Pharmacy and Bachelor of Science in Pharmacy Degrees.

The Secretary reviewed correspondence with NABP Secretary Costello pursuant to Resolution No. 24 of the annual meeting. Secretary Costello related that the equivalency of the two degrees had been emphasized to the boards of pharmacy and that their equivalency was well understood.

He related the following as a point of concern to the NABP: Some states will seek to amend their law and include the statement that an applicant must be a graduate of a five-year course rather than merely stating he must be a graduate from an accredited school. The former would make ineligible applicants from the four-year courses.

It was moved, Parks-Waters, that the Secretary provide the Association's representative to district meetings of boards and colleges with the correspondence from Secretary Costello for discussion in their reports and that all deans be made cognizant, through these minutes, of the concern of the NABP relative to the inclusion of the length of the course in legislation. The motion was passed.

e. The Secretary presented a request from a company for the names of all teachers of a single discipline in our member schools and colleges. The only list available is the *Roster of Teaching Personnel*.

It was moved, Waters-Burlage, that the *Roster* not be made available in such instances and that the inquirer be requested to address the deans of the member colleges for such information. The motion was passed.

f. The Secretary read a letter from a dean of a member college suggesting that information be circulated about the National Society for Medical Research. This was deemed unnecessary, as it is believed the Society and its objectives are widely known. (The Association makes a modest contribution annually.)

g. The Secretary reviewed correspondence with the Surgeon General, USPHS, relative to meetings of an ad hoc committee with members of the Service and to the cooperation with our membership of Pharmacist Director Archambault, Liaison Officer to the Office of the Surgeon General.

4. Dates of Annual Meetings.

The Secretary reported that the 1961 annual meeting is to be held in Chicago during the week of April 23, the week of the A.Ph.A. annual meeting. Confirming a mail vote of Committee members *it was moved*, Burlage-Hager, that the meeting be held Sunday afternoon

and Tuesday morning and afternoon with the teachers' sections meeting Monday afternoon except for the section in graduate instruction, which will meet Monday evening. The motion was passed.

The 1962 meeting, to be held with the A.Ph.A., is scheduled for Las Vegas, Nevada, the week of March 25.

5. Pharmacy Teachers' Seminar, 1961.

Chairman Hewitt reported on the results of the Committee's invitation to member colleges to act as host to the 1961 Seminar and of the subsequent mail vote of Executive Committee members on schools which had extended invitations. *It was moved*, Waters-Parks, that the 1961 seminar on pharmacy be held at the University of Wisconsin, July 9-15. The motion was passed.

Chairman Hewitt reported also on the results of a questionnaire to pharmacy teachers regarding subjects to be considered in the 1961 seminar. The opinions included in the 160 responses will be made available to the seminar committee. The Chairman expressed gratification for the cooperation of pharmacy teachers.

The Secretary, serving with a committee of five other members, was directed to initiate plans for the 1961 seminar.

6. Evaluation of Teachers' Seminar.

A lengthy discussion occurred relative to the need for, and the best manner of, evaluating past and/or future seminars to determine if they are achieving their full potential. The consensus was that a permanent committee should be established for this purpose. In view of further study deemed desirable on this question, *it was moved*, Gibson-Waters, that Vice President Parks be appointed chairman of a subcommittee to seek the best means of evaluating the annual seminars, the subcommittee to report to the Executive

Committee at its April meeting. The motion was passed.

7. Report of the Editor.

Editor Gibson reported that the Fall issue of the *Journal* would be the last under his direction with Editor-elect Granberg assuming the editorship January 1, 1961. The problems encountered by the inclusion of the 1960 seminar proceedings in the *Journal* were related and it was recommended that the proceedings hereafter be published separately, as in the past.

The 1960 seminar proceedings, in addition to being available in the *Journal*, will be available as reprints; the reprints will carry an announcement regarding the availability of proceedings of previous seminars. It was reported that only the proceedings of the 1949 and 1958 seminars are unavailable.

Editor Gibson cited the value accruing to the editor through attendance at each seminar. *It was moved*, Gibson-Adams, that the editor attend all seminars with expenses to be borne by the Association. The motion passed.

Without objection, the report of the editor was accepted. Chairman Hewitt expressed the feeling of the entire Committee in his words of appreciation to Editor Gibson for his years of excellent service to the Association and to pharmaceutical education. By unanimous action, the Secretary was directed to send a formal expression of the Committee's action to Editor Gibson, to the dean of the school, and to the president of Washington State University.

8. Report of the Editor-elect.

Editor-elect Granberg stated that the Winter issue is to include the proceedings of the 1960 annual meeting. The issue will be an anniversary issue commemorating the twenty-five years of the *Journal's* existence. In the name of the Executive Committee, the editor-

elect will acknowledge the work of past-Secretary Zada M. Cooper. *On motion*, Parks-Adams, the report was accepted.

9. Sponsorship of Events at District Meetings.

The outside sponsorship of events at district meetings was discussed at length, and *on motion*, Adams-Parks, the following resolution was adopted: The Executive Committee hereby authorizes the AACP Secretary to inform the secretaries of the various districts of boards and colleges of pharmacy that a careful study of outside sponsorship and/or subsidization of any of the events of district meetings be made in order to determine whether such action places the boards and/or colleges under any obligation to the sponsor. If conflicts of interest are found to exist, it is to be recommended that such sponsorship be avoided.

10. Changes in Constitution and By-laws to Provide for a Full-time Secretary-Treasurer.

The Secretary, acting in accordance with an Executive Committee resolution passed at the post-convention meeting, presented the major constitution and bylaw changes required in the establishment of (1) the office of full-time secretary-treasurer, and (2) separate offices for a full-time secretary and a treasurer. Following considerable discussion which included the views of the Special Committee for the Screening of Applicants for a Full-time Secretary, as presented by Dean Adams, *it was moved*, Hager-Burlage, that the offices of secretary and treasurer be combined and be known as executive secretary-treasurer. Also, *it was moved*, Gibson-Waters, that the executive secretary-treasurer be elected by the Executive Committee for a term of three years. Each motion was duly approved.

Without objection, the Secretary was directed to refer the proposed change,

as amended, to the Chairman of the Committee on Constitution and By-laws.

11. Establishment of a Joint Committee of AACP and ASHP.

At the post-convention meeting the Executive Committee, acting pursuant to Resolution No. 16, referred the proposed Administrative Regulations for a Joint Committee of the AACP and ASHP to the Committee on Hospital Pharmacy Education for minor changes. The required changes were made by the Committee and the Regulations submitted to the Executive Committee for action at the interim meeting.

Following a review of the proposed Administrative Regulations, the following actions were approved *on motion* by Burlage-Parks:

- A. The Committee on Hospital Pharmacy Education was changed from a special committee to a continuing committee.
- B. The Committee shall be a joint committee with the American Society of Hospital Pharmacists.
- C. The Administrative Regulations for the Joint Committee (on Hospital Pharmacy Education) of the AACP and the ASHP were approved.

12. Nominees as Directors to the American Foundation for Pharmaceutical Education.

The Secretary read a letter from the Secretary of the AFPE requesting recommendations for nominees as directors in view of expiration of the terms of Hugo Schaefer and Richard Deno in January, 1961. By unanimous vote Richard Deno and Joseph Sprowls were approved for recommendation to the Secretary of the AFPE.

13. Review Courses for Board Examinations.

Chairman Hewitt read correspondence to and replies from deans of two

member schools, the University of Southern California and the University of California, regarding participation for profit by the schools and/or faculty members in organized review courses for applicants to board of pharmacy examinations. It was revealed that in one school two faculty members and in the other one faculty member had participated in such courses.

Following considerable discussion regarding such courses and the participation of faculty members in them, whether or not they are conducted in university buildings, it was approved *on motion*, Parks-Adams, that a subcommittee, with Hager as chairman, be appointed by Chairman Hewitt to prepare a resolution in opposition to such courses and participation therein by schools and/or faculty members for consideration by the Executive Committee at its April meeting.

14. Chairmanship of National Drug Trade Conference Delegation.

On motion, Bliven-Burlage, it was approved that in the future AACP presidents name a chairman of the NDTC delegation who shall serve also as the delegation's representative on the NDTC Executive Committee.

15. Policy on Trimester Programs.

Pursuant to Resolution No. 2 of the annual meeting and action of the Executive Committee at its post-convention meeting, a subcommittee of Hager and Bliven, with the former as chairman, presented a guiding policy statement to be made available to administrators of member schools as they may be called on to implement a trimester or four-quarter program.

Following a lengthy discussion, indicating the interest of all Committee members, a statement was approved *on motion*, Parks-Gibson, for presentation to the membership at the 1961 meet-

ing. This statement is attached hereto as "Enclosure A."

16. Report on Enrollment, 1960-61.

Chairman Hewitt presented the results of the 1960-61 enrollment survey. He reported that the continental member schools have an enrollment of 13,606 for the last three years of the program, an increase of 1,077 students over the corresponding figures for 1959-60. Each of the three classes shows an increase with the third from last year class showing a 16.8 per cent rise. The percentage increase for all three classes was 8.6 over 1959-60.

All districts, except District No. 7, show an increase in enrollment.

17. Report on Meeting of American Foundation for Pharmaceutical Education Executive Committee.

Chairman Hewitt reported on the meeting of the AFPE Executive Committee held September 29 at which time funds, in the amount of \$12,000, were requested for the purpose of establishing an office of full-time secretary for the AACP.

He reported that while the Committee felt that it should continue to support its present educational programs, including the *Journal* and the Teachers' Seminar, it was deemed inadvisable to assume new obligations during the coming year. It was pointed out that the AACP request would divert funds from the basic scholarship and fellowship program which is the principal reason for contributions and therefore could result in reduced gifts to the Foundation. For this reason, the request for funds for this purpose was denied by the Committee. It was suggested that the AACP review its proposal and consider possible alternatives.

Chairman Hewitt pointed out that according to established procedure a request for funds could not be acted

upon at the meeting of the AFPE Directors in January. However, this does not preclude further discussion of the project in an attempt to gain the support of the group to the end that it would be given favorable consideration at a subsequent meeting of the Executive Committee.

Accordingly, *it was moved*, Parks-Adams, that a presentation be made to the Directors for the support necessary to permit the AACP to fulfill its objective more adequately and effectively through the establishment of a full-time office of secretary. The motion was passed.

The proposed budget for the year 1961-62, on the basis of a full-time secretary, was restudied in light of the Foundation's suggestion and *it was moved*, Parks-Gibson, that \$10,000 be the amount considered essential to meet anticipated expenses, provided, however, that following further careful consideration, the AACP Directors to the Foundation were authorized to make adjustments as may be deemed proper without curtailment of the Association's program. The motion was passed.

18. A Bill to Regulate Research Requiring the Use of Animals (S.3570 of the 86th Congress).

Dean Hager reviewed legislation introduced in the 86th Congress which would regulate research requiring the use of animals, one bill being S.3570.

On the basis of the presentation and the opposition to such legislation by the National Society for Medical Research, *it was moved*, Adams-Hager, that the Association support the NSMR in its opposition to such legislation and that the Secretary request the deans of member schools to write their congressmen stating their opposition to any legislation introduced under the title: "A bill to provide for the humane treatment of

animals used in experiments and tests by recipient of grants from the United States and by agencies and instrumentalities of the United States Government and for other purposes." This was the title for each of the three bills introduced in the House of Representatives and of S.3570. The motion was passed.

19. Selective Service Classification of Prepharmacy and Pharmacy Students.

Dean Adams reviewed correspondence with the Director of Selective Service for Pennsylvania relative to the status of prepharmacy students. He reported he was informed that while students registered in the professional curriculum would be considered as "students in the health professions," prepharmacy students would be considered for deferment on the basis of their Selective Service test score and their class standing as are other university students. As a result, it was suggested that deans of schools with other than 0-5 programs might well review the status of their prepharmacy students with the Selective Service Director of their state.

20. Headquarters for Full-time Secretary.

On motion, Bliven-Waters, a subcommittee of Hewitt, Adams, and Bliven, with Hewitt as chairman, was appointed to meet with Secretary Apple relative to possible office space within the American Institute of Pharmacy for the prospective full-time AACP secretary. The subcommittee is to report by mail at an early date to members of the Executive Committee.

Chairman Hewitt stated that a letter on this subject to Secretary Apple had not been answered as yet.

21. AACP Participation in Recruitment Activities.

The Secretary stated that the Association, by paying for exhibit space, was cooperating with the A.Ph.A. to provide an exhibit at the annual meet-

ing of the National Science Teachers Association to be held in Chicago in March, 1961, although no money had been budgeted initially for recruitment activities. Subsequent discussion led to a motion, Parks-Adams, that inasmuch as all recruitment activities are now a function of the A.Ph.A., the Secretary be directed to address a letter to the Secretary of the A.Ph.A. stating the willingness of the Association to aid in the financing of the exhibit at the 1961 meeting of the National Science Teachers Association and expressing our hope that in the future the A.Ph.A. will provide a budget for an exhibit at the meeting of this Association.

Without objection an appropriation not to exceed \$300 was approved for use in providing an exhibit at the 1961 meeting of the National Science Teachers Association.

22. Cooperation with the English-Speaking Union.

The Secretary reported that Dr. James C. Parkinson, Head of the Pharmacy Department, Technical College, Brighton, Sussex, England, was now in the United States and was visiting about six of our member schools. The Secretary, working with the English-Speaking Union, had facilitated his visit to the member schools, and he expressed his appreciation to the deans of the schools for their cooperation.

23. Membership in National Health Council.

The Secretary reported on correspondence with the executive director of the National Health Council relative to membership in the Council. Inasmuch as recruitment activities are now the responsibility of the A.Ph.A. and for budgetary reasons, *it was moved*, Hager-Gibson, that the AACCP would not seek membership to the Council. The motion was passed.

Dean Leuallen will represent the Association at the 1961 National Health Forum on "Better Community Health." Participation by delegates from the AACCP had been requested by the Council.

24. Report of Subcommittee on Screening of Applicants for Full-time Secretary.

Dean Adams, chairman of the Subcommittee, reported that several names had been submitted as nominees for the office. The Subcommittee plans to mail out one more request for nominees and asked that the deadline for submitting names be changed from December 1 to December 31. *On motion*, Burlage-Gibson, the new date was accepted.

25. Meetings of the Canadian Faculty of Pharmacy.

The Secretary was directed to obtain the meeting dates of the Canadian Faculty of Pharmacy in order that consideration might be given to sending a representative to future meetings.

It is noted that the 1961 Teachers' Seminar dates would not conflict with the 1961 meeting of the Canadian Pharmaceutical Association. Members of the Canadian affiliate colleges had requested that such a conflict be avoided.

26. Subjects for Joint Meeting of AACCP Representatives with American Council on Pharmaceutical Education.

The following items were proposed for discussion:

- A. The conflict of the Council's requirement of 150 weeks for the undergraduate curriculum and a program followed by some universities of admitting students from high school with college credit on the basis of advanced placement test scores and a superior or a college level course taken at the secondary level.

- B. Academic standards for students entering graduate study.
- C. Acceptance of students to the professional curriculum from junior colleges holding limited accreditation.

27. Audit for 1959-60.

The audit for the year ended July 31, 1960, prepared by Albert J. Schneider, CPA, was reviewed and *on motion*, Burlage-Hager, was accepted.

Secretary-Treasurer Bliven reported that the cash balance as given in the audit and the U. S. Savings Bonds had been transferred to him.

28. Charge for Exhibit at 1960 Meeting of the National Science Teachers Association.

Secretary Bliven reported that the charge for the exhibit prepared for the 1960 meeting of the National Science Teachers Association was \$601.34 and, in order that payment might be made, the A.Ph.A. had returned to the AACP funds in this amount from the recruitment aids monies transferred to the A.Ph.A. in May, 1960. *On motion*, Adams-Waters, it was approved that the money be accepted and the charge for the exhibit be paid.

29. Educational Films.

Dr. Gibson commented on educational films being made available through industry and other sources. He expressed the thought that films of greater value to schools and colleges of pharmacy might result if those making films were informed of what the schools desired.

It was moved, Hager-Gibson, that the Committee on Audio-Visual Education be requested to update the catalogue of films and to request the member colleges to indicate subjects on which films are needed. The motion was passed.

30. Individual Faculty Membership in the AACP.

Vice President Parks proposed that thought be given to providing some means for membership of faculty members in the Association, such membership including, perhaps, a subscription to the *Journal*. President Burlage stated that he was giving attention to this subject for possible inclusion in his presidential address. A second item receiving his attention is a means of increasing circulation of the *Journal*. Without objection those subjects were left to President Burlage for further thought.

31. "100 Problems in Pharmacy."

The Secretary reviewed the action taken at the Special Meeting of the Executive Committee held August 17, relative to the preparation of a booklet tentatively entitled "100 Problems in Pharmacy," setting forth research problems in the various areas of the curriculum. He stated that a pilot survey of six educators and six research directors in industry showed, in general, their willingness to cooperate in this undertaking by submitting problems in one or more areas.

It was moved, Hager-Adams, that this project be undertaken by the Association provided a grant to support the work would be forthcoming, and that the Secretary proceed with the details essential in initiating the preparation of the booklet. The motion was passed.

32. Report on Meeting of Ad Hoc Committee on Public Health.

The Secretary reported on the meeting on August 12 of an ad hoc committee of seven Association representatives and Dr. George Archambault with Dr. Elmer Hill, chief, Public Health Service. This meeting was an outgrowth of a meeting of essentially the same group of AACP representatives with Drs.

Kenneth Endicott and Ernest Allen, assistant surgeon general and chief, Division of Research Grants, respectively, in March, 1960.

The objective of the August 12 meeting was to seek ways in which the course content in public health in member schools could be further developed, improved and strengthened so that graduate pharmacists might more effectively carry out their community role as members of one of the ancillary health professions.

The Secretary stated that the results of the six-hour meeting had been reduced to writing by Dr. Hill and had been made available to each member of the Committee on Curriculum.

Discussions revolved around the teaching of basic principles and concepts of public health, with emphasis on the importance of teaching what constitutes the total field rather than certain minutiae of techniques like water treatment and sewage disposal which might better be covered in courses in bacteriology or microbiology.

Without objection the report was received.

33. Report on Meeting on Pharmacy Manpower.

The Secretary reported on a meeting, also on August 12, of the ad hoc committee mentioned in Item 32 with Dr. William Stewart of the U. S. Public Health Service. Dr. William Apple, A.Ph.A. Secretary, attended this meeting. The objective was to explore the possibilities of carrying out a manpower survey of pharmacists similar to the Bane Report on physicians (Public Health Service Publication No. 709).

Dr. Stewart related that manpower studies of other health profession groups were under consideration. After learning of the measures used in gathering the information for the report on physicians and discussion of the basic problems in a similar study of pharma-

cy manpower, it was agreed that Secretary Apple would appoint a committee, the function of which would be to work with Dr. Stewart to study the problem and determine if information essential to such a study could be provided.

Secretary Bliven reported that although the proposed committee had not been established at this time, preliminary steps to achieve the objectives had been taken by Dr. Apple.

Without objection the report was received.

34. Reports of Representatives to District Meetings.

Dr. Adams reported on the meeting of District No. Two; Dean Waters, District No. Three; Dean Hager, District No. Five; and Dr. Gibson, the combined meeting of Districts Nos. Seven and Eight. It was reported by each representative that the practical experience requirement had received consideration. Discussion of the Committee members following the reports resulted in an informal expression that the subject of practical experience be included on future district programs. It was noted that NABP President Ralph Ware has proposed that this subject be given high priority by the appropriate NABP Committee.

The oral reports were received. Written reports for publication are not required inasmuch as the various district proceedings are made available to each school.

35. Request of Section of Teachers of Pharmacy Administration to Undertake a Comparative Study of the Economic Advantages of Educational Positions with those in Industry.

The request from Dr. Robert Evan-son, chairman of a committee to undertake the proposed study, was approved *on motion*, Gibson-Adams. The request for an appropriation not to exceed \$25 was approved.

36. Request for Appropriation by Special Committee on Guide for Committees.

An appropriation of \$100 was approved *on motion*, Adams-Waters. The Special Committee consists of Richard A. Deno, chairman; Editor-elect Granberg; and the Secretary.

37. Federal Programs in Higher Education.

The Secretary reviewed correspondence previously circulated to members of the Committee, from Dr. J. Kenneth Little, director, Survey of Federal Programs in Higher Education, U. S. Public Health Service. The study of federal programs in higher education outlined in Dr. Little's letter has two objectives: (1) That of "bringing together the information which pictures the totality of federal programs in which colleges and universities, or their students or staff, participate," and (2) "to assemble the kinds of information which will be useful as background information for recommending policies and procedures which will 'strengthen the programs and objectives of institutions of higher education utilized' in Federal programs."

Following discussion *it was moved*, Hager-Gibson, that (1) a committee be established by the chairman to study the role of federal government in pharmaceutical education in the United States, (2) the Secretary formulate a statement of policy of the AACP, for approval of Committee members, relative to federal programs in pharmaceutical education, and (3) the Secretary meet with Dr. Little to explore the breadth of the study he is undertaking and its possible application to legislation in which the Association is interested. The motion was passed.

A questionnaire from the American Council on Education relative to federal assistance in the construction of academic facilities was presented for the

information of the members. Since the questions seem inapplicable to organizational members, it was suggested the Secretary talk with a representative of the ACE regarding the questionnaire and, at the same time, relate the Association's interest in legislation for classroom construction for pharmacy schools.

38. Adjournment.

The meeting adjourned at 12:15 P.M., November 11, 1960.

Charles W. Bliven, Secretary

Enclosure A

**Proposed Guiding Principles
of the
American Association of Colleges
of Pharmacy
Relative to the Extension of the
Traditional Academic Year Program**

In full recognition of the probable future need for the greater utilization of the classrooms and laboratories of our schools and colleges of pharmacy to satisfy the demand of students seeking pharmaceutical education and to provide for the manpower requirements of the profession, the following guiding principles are proposed relative to the extension of the traditional academic year (two-semester or three-quarter):

1. That such programs be established according to sound educational objectives and not primarily for the purpose of accelerating the program of an entire student body.
2. That under such programs students should not be required to attend continuously three semesters or four quarters.
3. That the faculty be sufficient in number to conduct properly the year-round program adopted. The number of faculty members considered adequate for a normal academic year (e.g., two-semester or three-quarter) is considered inadequate for a longer program (e.g., trimester or four-quarter).

President's Section

WHAT IS HAPPENING? WE NEED AN ANSWER!

The writer was somewhat disturbed by an editorial which recently appeared under the heading of "Wishful Thinking Is Not Enough." The editorial implied that the American Association of Colleges of Pharmacy took a "weak-kneed" stand in the passage of a resolution relative to the recent action of the Oklahoma Supreme Court directing the Oklahoma State Board of Pharmacy to give a practical examination registration to applicants with *only two years of practical experience*. The real danger of such a directive is that assistant pharmacists, under the Oklahoma law, can compound and dispense prescriptions the same as registered pharmacists.

The writer of the editorial, as so often happens, criticizes the action of the Association without offering a solution or a realistic militant step to prevent directives of this sort which are hampering the progress of pharmacy and casting a *bad light* on pharmaceutical education, when a high court of a state allows "practical experience" in lieu of modern education. Such directives on the part of high courts date back to the "old days" when such experience was the only requirement necessary to becoming a pharmacist, a lawyer, or even a doctor.

The question to be answered is "What Is Happening?" One answer is that politics involving a privilege to an unqualified minority should not be the order of the day especially when the health and welfare of the citizens are involved.

Let us try to answer the implied accusation of timidity against the AACP. It is interesting to know that the Association in the passage of the resolution with an amendment that it be referred to the NABP had proposed a stronger resolution than that offered by the delegates of the two member colleges from the state in which the mandate from this high court originated. It was indicated that the editorial writer himself had a part in formulating the resolution which was later strengthened by the Resolutions Committee of the Association. The only question raised on the resolution proposed was that of state's rights.

It is indeed regrettable that implications as made in the editorial did not represent the entire facts in the case of the Association's stand. Harmony and concerted action are not brought about in this manner.

Henry M. Burlage

You are now reading the anlage of the *American Journal of Pharmaceutical Education*. It came about in this way. For a long time there has been a feeling that the Proceedings did not justify the needs of the American Association of Colleges of Pharmacy. I suppose this happens in the life of every organization. Well do I remember back in 1912 when it happened to the American Pharmaceutical Association. The activities of that organization became so numerous and so diversified that some other means of communication than the Proceedings was needed. The *Journal* was born. Pharmaceutical education has come to be one of the major fields of professional education. We have not only been asked to contribute something creative to the field of professional education, but we are expected to contribute our share to the field of general education, on all its levels, as well. Such service cannot be rendered by meeting together and thinking together once a year. The journal will enable us to do that four times a year and let us hope that in the not too distant future, it may be still more frequent.

These are the words written by Rufus A. Lyman to introduce Volume 1, Number 1 of the *American Journal of Pharmaceutical Education* to its readers in January, 1937. The publication of the *Journal* was, in the words of Dr. Ernest Little, then chairman of the Executive Committee of the AACP, "the most significant development in the field of pharmaceutical education since the adoption of the minimum four year course."

The idea of establishing a journal devoted exclusively to pharmaceutical education originated with Dr. Lyman. The procedures necessary to gain support for the idea and to win approval for publication of the journal are chronicled in the first issues of Volume 1.

This year we are privileged to celebrate the twenty-fifth year of publication of Dr. Lyman's brain child. President Burlage has written elsewhere in this issue that the *Journal* is more than paper, ink, and printed words—that it

is a "vital personality." It is, in truth, a living testimonial to those in pharmacy, and particularly in pharmaceutical education, who have cared for the high purposes for which the *Journal* stands and who have made certain that these ideals have not been lost through the coldness of years in a hectic life of struggle for survival and progress.

This is an issue of dedication. The formal dedication has been accorded to Miss Cooper and is small recognition for the lifetime of service she has given to pharmaceutical education. In spirit, however, the dedication is to Little, to Lyman, to Kuever, to Wilson, to Jordan, to DuMez, to Gibson, and to the legion who have supported the *American Journal of Pharmaceutical Education*. These persons named, and the many unnamed, are remembered for their honesty and good judgment, for their quiet courage, integrity, and loyalty to their profession. They are known for their high ideals and Christian character, for their liberal support of the

work of the profession of pharmacy. We honor these colleagues for their sacrifices, their leadership, and their devotion in protecting the greatness of our heritage.

In 1986, God willing, this journal will commemorate its fiftieth year of publication. Then someone as editor may look back at those of us now active in pharmaceutical education and examine our writings, our efforts, our work. By what will we be known? By what will we be remembered?

Will we be recalled with fondness and gratitude for our successes in protecting and progressing pharmacy, or with bitterness and regret for our lack of accomplishment and our failures? Will we be known as persons who promised and kept the faith, or as those who accepted responsibility and failed to fulfill the pledge? Will we be remembered as persons who contributed to the good life of pharmacy, as persons interested in the welfare of all? Or will we be recalled as persons who received but did not give, who lived selfishly to ourselves and for ourselves with no concern for our colleagues and no interest in the common good of all?

Twenty-five years is a short time in the history of pharmacy. But when this span of years is used to mark the anniversary of an event as important to the profession as the beginning of this journal, it provides an opportune point in time for each of us to pause for reflection, for study, and for a rededication to the principles, the aims and objectives, and the purpose for which the *Journal* was created.

Here is an opportunity for each pharmaceutical educator to take a long look at his personal relationship to the profession of pharmacy. Here is a time for each of us to revalue the image of our profession. If we find our first decision to serve pharmacy is wearing thin, here is a time for a second decision, for a

rededication of our loyal convictions to pharmacy. It is well to remember that, without pharmacy as our first interest, all our other joys would be less possible.

It is sad that the creator of the *Journal* is not alive to glory in the twenty-fifth anniversary of the venture which he championed and guided for nineteen years. The brilliance, wisdom, and vision of Dr. Lyman and his successor as editor, Dr. M. R. Gibson, have brought to the *American Journal of Pharmaceutical Education* an eminence seldom equalled in the area of professional publications. As the new editor of this journal, I am acutely aware of the task confronting me as I pledge to carry on in the traditions established by Editors Lyman and Gibson.

We have just emerged from the decade known as the "Fabulous Fifties" into a decade which was originally billed as the "Soaring Sixties," but which may be developing for pharmacy as the "Sinister Sixties." To meet the challenges of the future will require that all of us have an awareness of what happened yesterday and be alert to what is happening today; then we may be encouraged and even excited by the potential of tomorrow's events.

My decision to accept the responsibility of continuing the fine traditions and high ideals of the *American Journal of Pharmaceutical Education* was predicated primarily on the historical fact of the willingness of the members of the staffs of the schools and colleges of pharmacy served by this journal to accept *their* responsibility for its success by supporting it financially through subscriptions and editorially by submitting material for publication. With this support and cooperation, and with the direction of the guide lines laid out by Lyman and Gibson, I believe we can assure the continued success of the *Journal*.

C. Boyd Granberg

Miscellaneous Data

INSTITUTIONS HOLDING MEMBERSHIP IN THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

ALABAMA

School of Pharmacy
Auburn University (1905)*
Auburn
Dean Samuel T. Coker

Division of Pharmacy
Howard College (1952)
800 Lakeshore Drive
Birmingham 9
Director Woodrow R. Byrum

ARIZONA

College of Pharmacy
University of Arizona (1952)
Tucson 11
Dean Willis R. Brewer

ARKANSAS

School of Pharmacy
University of Arkansas (1952)
4301 West Markham
Little Rock
Dean Stanley G. Mittelstaedt

CALIFORNIA

School of Pharmacy
University of the Pacific (1960)
Stockton
Dean Ivan W. Rowland

School of Pharmacy
University of California Medical Center
(1942)

San Francisco 22
Dean Troy C. Daniels

School of Pharmacy
University of Southern California (1918)
University Park
Los Angeles 7
Dean Alvah G. Hall

COLORADO

College of Pharmacy
University of Colorado (1921)
Boulder
Dean Curtis H. Waldon

CONNECTICUT

School of Pharmacy
University of Connecticut (1935)
Box U-92
Storrs
Dean Harold G. Hewitt

DISTRICT OF COLUMBIA

School of Pharmacy
George Washington University (1900)
2128 H Street, N.W.
Washington 6
Dean Charles W. Bliven

*Denotes year institution was admitted to the Association.

College of Pharmacy
Howard University (1926)
2300 4th Street, N.W.
Washington 1
Dean Chauncey I. Cooper

FLORIDA

School of Pharmacy
Florida Agricultural and Mechanical
College (1954)
Tallahassee
Dean Howard McClain, Jr.

College of Pharmacy
University of Florida (1925)
Gainesville
Dean Perry A. Foote

GEORGIA

Southern College of Pharmacy
Mercer University (1948)
223 Walton Street, N.W.
Atlanta 3
Dean Oliver M. Littlejohn

School of Pharmacy
University of Georgia (1928)
Athens
Dean Kenneth L. Waters

IDAHO

College of Pharmacy
Idaho State College (1927)
Pocatello
Dean Laurence E. Gale

ILLINOIS

College of Pharmacy
University of Illinois (1900)
833 South Wood Street
Chicago 12
Dean George L. Webster

INDIANA

College of Pharmacy
Butler University (1927)
4600 Sunset Boulevard
Indianapolis 7
Dean Karl L. Kaufman

School of Pharmacy
Purdue University (1901)
Lafayette
Dean Glenn L. Jenkins

IOWA

College of Pharmacy
Drake University (1942)
25th and University
Des Moines 11
Dean Byrl E. Benton

College of Pharmacy
State University of Iowa (1901)
Capitol Street
Iowa City
Dean Louis C. Zopf

KANSAS

School of Pharmacy
University of Kansas (1900)
Lawrence
Dean J. Allen Reese

KENTUCKY

College of Pharmacy
University of Kentucky (1900)
Washington and Gladstone
Lexington
Dean Earl P. Slone

LOUISIANA

New Orleans College of Pharmacy
Loyola University (1921)
6363 St. Charles Avenue
New Orleans 18
Dean Edward J. Ireland

School of Pharmacy
Northeast Louisiana State College (1957)
4001 De Siard
Monroe
Dean Ralph M. Wilson

College of Pharmacy
Xavier University (1923)
7325 Palmetto
New Orleans 25
Dean Lawrence F. Ferring

MARYLAND

School of Pharmacy
University of Maryland (1900)
636 West Lombard Street
Baltimore 1
Dean Noel E. Foss

MASSACHUSETTS

Massachusetts College of Pharmacy
(1900)
179 Longwood Avenue
Boston 15
Dean Howard C. Newton

New England College of Pharmacy (1952)
70-72 Mount Vernon Street
Boston 8
Dean LeRoy C. Keagle

MICHIGAN

Division of Pharmacy
Ferris Institute (1938)
Science Hall
Big Rapids
Dean Edward P. Claus

College of Pharmacy
University of Michigan (1900)
Ann Arbor
Dean Tom D. Rowe

College of Pharmacy
Wayne State University (1925)
171 Old Main Building
Detroit 2
Dean Stephen Wilson

MINNESOTA

College of Pharmacy
University of Minnesota (1901)
Minneapolis 14
Dean George P. Hager

MISSISSIPPI

School of Pharmacy
University of Mississippi (1913)
University
Dean Elmer L. Hammond

MISSOURI

St. Louis College of Pharmacy
and Allied Sciences (1900)
4588 Parkview Place
St. Louis 10
Dean James R. Thayer
School of Pharmacy
University of Kansas City (1948)
5100 Rockhill Road
Kansas City 10
Dean Leslie L. Eisenbrandt

MONTANA

School of Pharmacy
Montana State University (1917)
Missoula
Dean Robert L. Van Horne

NEBRASKA

College of Pharmacy
Creighton University (1916)
1406 Davenport Street
Omaha 2
Dean Salvatore J. Greco

College of Pharmacy
University of Nebraska (1913)
Lincoln 8
Dean Joseph B. Burt

NEW JERSEY

College of Pharmacy
Rutgers—The State University (1923)
1 Lincoln Avenue
Newark 4
Dean Roy A. Bowers

NEW MEXICO

College of Pharmacy
University of New Mexico (1952)
Albuquerque
Dean Elmon L. Cataline

NEW YORK

College of Pharmacy of the City of
New York

Columbia University (1939)
115 West 68th Street
New York 23
Dean E. Emerson Leuallen

College of Pharmacy
Fordham University (1939)
Bronx 58
Dean Albert J. Sica

Brooklyn College of Pharmacy
Long Island University (1939)
600 Lafayette Avenue
Brooklyn 16
Dean Arthur G. Zupko

College of Pharmacy
St. John's University (1951)
Grand Central and Utopia Parkways
Jamaica 32
Dean Andrew J. Bartilucci

Albany College of Pharmacy
Union University (1945)
106 New Scotland Avenue
Albany 3
Dean Francis J. O'Brien

School of Pharmacy
University of Buffalo (1939)
Buffalo 14
Dean Daniel H. Murray

NORTH CAROLINA

School of Pharmacy
University of North Carolina (1917)
Box 629
Chapel Hill
Dean Edward A. Brecht

NORTH DAKOTA

School of Pharmacy
The North Dakota State University (1922)
Fargo
Dean Clifton E. Miller

OHIO

College of Pharmacy
Ohio Northern University (1925)
500-600 South Main Street
Ada
Dean Albert C. Smith

College of Pharmacy
Ohio State University (1900)
1958 Neil Avenue
Columbus 10
Dean Lloyd M. Parks

College of Pharmacy
University of Cincinnati (1947)
Cincinnati 21
Dean Joseph F. Kowalewski

College of Pharmacy
University of Toledo (1941)
2801 West Bancroft Street
Toledo 6
Dean Charles H. Larwood

OKLAHOMA

School of Pharmacy
Southwestern State College (1951)
Weatherford
Dean W. D. Strother

College of Pharmacy
University of Oklahoma (1905)
Norman
Dean Ralph W. Clark

OREGON

School of Pharmacy
Oregon State College (1915)
Corvallis
Dean Charles O. Wilson

PENNSYLVANIA

School of Pharmacy
Duquesne University (1927)
901 Vickory Street
Pittsburgh 19
Dean John G. Adams

Philadelphia College of Pharmacy and
Science (1900)
43rd Street, Kingsessing and
Woodland Avenues
Philadelphia 4
Dean Linwood F. Tice

School of Pharmacy
Temple University (1928)
3223 North Broad Street
Philadelphia 40
Dean Joseph B. Sprowls

School of Pharmacy
Schools of the Health Professions
University of Pittsburgh (1900)
3550 Terrace Avenue
Pittsburgh 19
Acting Dean Joseph A. Bianculli

PHILIPPINES

College of Pharmacy
University of the Philippines (1917)
Quezon City
Dean Patrocinio Valenzuela

PUERTO RICO

College of Pharmacy
University of Puerto Rico (1925)
Rio Piedras
Dean Luis Torres-Diaz

RHODE ISLAND

College of Pharmacy
University of Rhode Island (1958)
Kingston
Dean Heber W. Youngken, Jr.

SOUTH CAROLINA

School of Pharmacy
Medical College of South Carolina (1940)
16 Lucas Street
Charleston 16
Dean William A. Prout

School of Pharmacy
University of South Carolina (1928)
Columbia 19
Dean Robert W. Morrison

SOUTH DAKOTA

Division of Pharmacy
South Dakota State College (1908)
Brookings
Dean Floyd J. LeBlanc

TENNESSEE

School of Pharmacy
University of Tennessee (1914)
874 Union Avenue
Memphis 3
Dean Seldon D. Feurt

TEXAS

School of Pharmacy
Texas Southern University (1952)
3201 Wheeler Avenue
Houston 4
Dean Edward J. Eugene

College of Pharmacy
University of Houston (1952)
3801 Cullen Boulevard
Houston 4
Dean Noel M. Ferguson

College of Pharmacy
University of Texas (1926)
Austin 12
Dean Henry M. Burlage

UTAH

College of Pharmacy
University of Utah (1951)
Salt Lake City 1
Dean L. David Hiner

VIRGINIA

School of Pharmacy
Medical College of Virginia (1908)
Richmond 19
Dean Warren E. Weaver

WASHINGTON

School of Pharmacy
Washington State University (1912)
Pullman
Dean Allen I. White

College of Pharmacy
University of Washington (1903)
Seattle 5
Dean Jack E. Orr

WEST VIRGINIA

College of Pharmacy
West Virginia University (1920)
Medical Center
Morgantown
Dean J. Lester Hayman

WISCONSIN

School of Pharmacy
University of Wisconsin (1900)
Madison 6
Dean Arthur H. Uhl

WYOMING

College of Pharmacy
University of Wyoming (1951)
Laramie
Dean David W. O'Day

AFFILIATE MEMBERS

CANADA

Faculty of Pharmacy
University of Toronto (1958)
46 Gerrard Street East
Toronto 2, Ontario
Dean F. N. Hughes

Faculty of Pharmacy
University of British Columbia (1958)
Vancouver 8, British Columbia
Dean A. W. Matthews

Faculty of Pharmacy
University of Alberta (1959)
Edmonton, Alberta
Dean M. J. Huston

COMMITTEE APPOINTMENTS AND OTHER INFORMATION AACP, 1960-61

STANDING COMMITTEES

1. **Committee on Constitution and Bylaws**
Linwood F. Tice, 1961, Chairman; Joseph B. Burt, 1962; E. L. Cataline, 1963.
2. **Committee on Curriculum**
Heber W. Youngken, Jr., 1961, Chairman; Nathan Gage, 1961; George P. Hager, 1962; Albert L. Picchioni, 1962; Esther Jane Wood Hall, 1963; Glen J. Sperandio, 1963.
3. **Committee on Educational and Membership Standards**
Noel E. Foss, 1962, Chairman; Edward P. Claus, 1961; George P. Hager, 1961; Kenneth L. Waters, 1962; Jack E. Orr, 1963; Lee Worrell, 1963.
4. **Committee on Relationships of Boards and Colleges**
Laurence E. Gale, Chairman
Other members are the eight secretaries listed for the districts of boards and colleges.
5. **Council on Conference of Teachers**
Takeru Higuchi, 1961, Chairman; Martin Barr, 1962, Vice Chairman; Joseph H. Kern, 1963, Secretary-Treasurer; Louis W. Busse, 1961; R. George Kedersha, 1962; Robert L. Van Horne, 1961; Charles O. Wilson, 1961.
6. **Joint Committee on Pharmacy College Libraries**
Glenn Sonnedeker, 1961, Chairman; James L. Olsen, SLA, 1961; Marjory Wankar, MLA, 1961; M. Margaret Kehl, 1962; George E. Osborne, 1962; Albert C. Smith, 1962.

CONTINUING COMMITTEES

1. **Committee on Audio-Visual Education**
E. J. Ireland, Chairman; Martin Barr; Jean Brown; N. W. Fenney; R. E. Hopponen; L. Wait Rising.
2. **Committee on Public Health and Civil Defense**
Curtis H. Waldon, Chairman; B. E. Benton; Samuel T. Coker; Vernon A. Green; William W. Stiles.

3. **Committee on Future Enrollment Problems**
Stephen Wilson, Chairman; Seldon D. Feurt; Joseph H. Kern; La Verne D. Small.
4. **Committee on Graduate Programs**
E. A. Brecht, Chairman; Ole Gisvold; Francis C. Hammerness; Alfred N. Martin, Jr.; Arthur E. Schwarting; Ewart A. Swinyard.
5. **Committee on Hospital Pharmacy Education**
Warren E. Weaver, Chairman; Alex Berman; Elmer Plein.
6. **Committee on Predictive Tests**
Robert W. Morrison, Chairman; Robert G. Brown; T. S. Miya; Joseph P. LaRocca; Sidney Riegelman.
7. **Committee on Recruitment Aids**
Karl L. Kaufman, Chairman; John Autian; Jack Beal; David W. O'Day; Allen I. White; D. G. Wenzel.
8. **Committee on Status of Pharmacists in the Government Service**
Lloyd E. Harris, Chairman; Ralph W. Clark; Clifton E. Miller.
9. **Committee on Continuation Studies**
Arthur G. Zupko, Chairman; Edward J. Eugene; Charles Hartman; Richard S. Strommen.

REPRESENTATIVES, DELEGATES, AND DIRECTORS

Representative to the American Association for the Advancement of Science

Andrew J. Bartilucci, 1961.

Delegates to the American Council on Education

Arthur H. Uhl, 1964, Voting Delegate; Noel E. Foss, 1962, First Alternate; George L. Webster, 1962, Voting Delegate; Warren E. Weaver, 1962, First Alternate.

Representative to the National Advisory Commission on Careers in Pharmacy

Karl L. Kaufman, 1961.

Representatives to the National Drug Trade Conference

E. E. Leuallen, 1961; Joseph B. Sprowls, 1962; Lloyd M. Parks, 1963.

**Representatives to the American Council
on Pharmaceutical Education**

Joseph B. Burt, 1962; Louis C. Zopf, 1964;
Linwood F. Tice, 1966.

**Directors of the American Foundation
for Pharmaceutical Education**

Richard A. Deno, 1961; Hugo H. Schaefer,
1961; Louis C. Zopf, 1964; Charles W.
Bliven; Harold G. Hewitt.

**Delegate to the House of Delegates of the
American Pharmaceutical Association**

John G. Adams, 1962; George L. Webster,
1962, Alternate.

**Representative to the National Association
of Retail Druggists**

Henry M. Burlage, 1961; George P. Hager,
1961, Alternate.

CONFERENCE OF TEACHERS

Takeru Higuchi, Chairman; Martin Barr,
Vice Chairman; Joseph H. Kern, Secretary-
Treasurer (1963); Louis W. Busse, AACP
Representative (1961).

Sections of Teachers

Officers and representatives for each section are listed in the following order: Chairman; Vice Chairman; Secretary-Treasurer; Representative to the Council on Conference of Teachers.

Biological Sciences

Joseph P. Buckley; Varro E. Tyler, Jr.;
Maurice C. Andries; Robert L. Van Horne
(1961).

Chemistry

Lee F. Worrell; Joseph H. Burckhalter;
Louis Malspeis; Takeru Higuchi (1961).

Graduate Instruction

Dale E. Wurster; Ole Gisvold; Eino Nelson;
Charles O. Wilson (1961).

Pharmacy

George E. Osborne; Patrick F. Belcastro;
Robert V. Petersen; Martin Barr (1962).

Pharmacy Administration

Wendle L. Kerr; Francis C. Hammerness;
Joseph D. McEvilla; R. George Kedersha
(1962).

**DISTRICTS OF
BOARDS AND COLLEGES**

Officers of each district are listed in the following order: Chairman for the Boards, Chairman for the Colleges; and Secretary-Treasurer. (Editor's Note: Officers listed are for 1961 meetings. Those districts which have fall meetings show officers for 1960 in parenthesis.)

District 1 (Conn., Me., Mass., N.H.,
R.I., Vt.)

Maurice Posnick; Pierre F. Smith; William O. Foye, Sec.; Howard C. Newton, Treas. (Ira Williams; Howard L. Reed; William O. Foye, Sec.; Howard C. Newton, Treas.)

District 2 (Del., D.C., Md., N.J., N.Y.,
Pa., Va., W.Va.)

Paul C. Tigue; Francis J. O'Brien; Noel E. Foss. (Francis S. Balassone; Albert J. Sica; Noel E. Foss.)

District 3 (Ala., Fla., Ga., Miss., N.C.,
P.R., S.C., Tenn.)

Lester Thaggard, Jr.; S. T. Coker; Lewis Nobles. (H. M. Kaiser; Robert Morrison; Lewis Nobles.)

District 4 (Ill., Ind., Ky., Mich., Ohio, Wis.)

Edward F. Kaminski; Glen Sperandio; Edward J. Rowe. (O. K. Grettenberger; Tom D. Rowe; Edward J. Rowe.)

District 5 (Iowa, Minn., Nebr., N.Dak.,
S.Dak.)

Ansul Suckerman; Richard E. O'Neil; H. P. Baumann. (Roger Eastman; Harold Bailey; H. P. Baumann.)

District 6 (Ark., Kans., La., Mo., Okla.,
Tex.)

William H. Wood; Noel Ferguson; R. O. Bachmann. (Deane D. Raley; Ralph Bienfang; R. O. Bachmann.)

District 7 (Alaska, Idaho, Mont., Ore.,
Wash., Wyo.)

Nathan A. Hall; Clarence Olberg; L. Wait Rising. (Al Bailey; Varro E. Tyler, Jr.; L. Wait Rising.)

District 8 (Ariz., Calif., Colo., Hawaii,
Nev., N.Mex., Utah)

C. Leander Prisk; Ivan W. Rowland; Ewart A. Swinyard. (Edna W. Risch; Joseph Zapotocky; Ewart A. Swinyard.)

**ROSTER OF DELEGATES AND REPRESENTATIVES
IN ATTENDANCE AT THE SIXTY-FIRST ANNUAL MEETING
AMERICAN ASSOCIATION OF COLLEGES
OF PHARMACY JULY 3-4, 1960
BOULDER, COLORADO**

- Auburn University School of Pharmacy:**
George M. Hocking
- Howard College Division of Pharmacy:**
W. R. Byrum
- University of Arizona College of Pharmacy:**
Rex V. Call
- University of Arkansas School of Pharmacy:**
R. O. Bachmann, James Dusenberry, T. S. Grosicki, M. W. Jordin, S. G. Mittelstaedt
- University of California School of Pharmacy:**
Troy C. Daniels, William Stiles, Louis A. Strait
- University of Southern California School of Pharmacy:** John A. Biles
- University of Colorado College of Pharmacy:**
M. C. Andries, F. G. Drommond, F. C. Hammerness, H. C. Heim, A. E. Hennig, T. E. Jones, H. R. Mehta, W. A. Shulls, Curtis H. Waldon
- University of Connecticut School of Pharmacy:** Ralph Blomster, H. G. Hewitt, P. J. Jannke, A. E. Schwarting
- George Washington University School of Pharmacy:** Charles Bliven, Samuel M. Schwartz
- Howard University College of Pharmacy:**
Chauncey I. Cooper, Roy C. Darlington, Gilbert J. Hite, Theodore B. Zalucky
- University of Florida College of Pharmacy:**
Perry A. Foote, Carl H. Johnson
- Mercer University Southern College of Pharmacy:** Clifton F. Lord, Jr.
- University of Georgia School of Pharmacy:**
Kenneth L. Waters
- Idaho State College of Pharmacy:**
Franklin R. Cole
- University of Illinois College of Pharmacy:**
Aurelia M. Aro, Conrad A. Blomquist, Frank A. Crane, James E. Gearien, Stanislaus Smolenski, Stanley V. Susina, Ralph F. Voigt, G. L. Webster
- Butler University College of Pharmacy:** Karl L. Kaufman, Edward J. Rowe
- Purdue University School of Pharmacy:** Patrick F. Belcastro, Gustav E. Cwalina, Robert V. Evanson, Glenn L. Jenkins
- Drake University College of Pharmacy:** B. E. Benton, C. Boyd Granberg
- State University of Iowa College of Pharmacy:** Henry P. Baumann, Seymour M. Blaug, David P. Carew, Wendle L. Kerr, John L. Lach, Louis C. Zopf
- University of Kansas School of Pharmacy:**
Raymond E. Hopponen
- University of Kentucky College of Pharmacy:**
Howard Hopkins
- Loyola University New Orleans College of Pharmacy:** Edward J. Ireland
- Northeast Louisiana State College School of Pharmacy:** August G. Danti, Joseph H. Kern, Edward L. Platcow, R. M. Wilson
- Xavier University College of Pharmacy:**
Ludmila Stass
- University of Maryland School of Pharmacy:**
Noel E. Foss
- Massachusetts College of Pharmacy:** Ronald Duvall, Carroll B. Gustafson, Edward LaSala, Howard L. Reed, Heber W. Youngken, Sr.
- New England College of Pharmacy:** Russell E. Brillhart, LeRoy C. Keagle
- Ferris Institute Division of Pharmacy:**
Edward P. Claus
- University of Michigan College of Pharmacy:**
Tom D. Rowe, Lee Worrell
- Wayne State University College of Pharmacy:**
Harold Bailey, William L. Blockstein, Stephen Wilson
- University of Minnesota College of Pharmacy:** Frank E. DiGangi, Ole Gisvold, George P. Hager, Herbert Jonas

- University of Mississippi School of Pharmacy:**
E. L. Hammond
- St. Louis College of Pharmacy and Allied Sciences:** J. Robert McCowan, Frank L. Mercer, George F. Reddish
- University of Kansas City School of Pharmacy:** L. L. Eisenbrandt
- Montana State University School of Pharmacy:** Robert L. Van Horne, John L. Wailes
- Creighton University College of Pharmacy:** Salvatore J. Greco
- University of Nebraska College of Pharmacy:** Joseph B. Burt
- Rutgers—The State University College of Pharmacy:** R. A. Bowers, R. G. Kedersha
- University of New Mexico College of Pharmacy:** Elmon L. Cataline, Kenneth H. Stahl
- Columbia University College of Pharmacy:** Francoise Kelz, E. E. Leuallen, Louis Malspeis, Frank J. Pokorny
- Fordham University College of Pharmacy:** Albert J. Sica, Rev. C. T. Taylor, S.J.
- Long Island University Brooklyn College of Pharmacy:** Paul C. Olsen, Arthur G. Zupko
- St. John's University College of Pharmacy:** Andrew J. Bartilucci
- Union University Albany College of Pharmacy:** Claude M. Reed
- University of North Carolina School of Pharmacy:** E. A. Brecht
- North Dakota State University School of Pharmacy:** Clifton E. Miller
- Ohio Northern University College of Pharmacy:** Albert C. Smith
- Ohio State University College of Pharmacy:** Earl P. Guth, Loyd E. Harris, Lloyd M. Parks
- University of Cincinnati College of Pharmacy:** Melvin B. Hoewel
- University of Toledo College of Pharmacy:** Charles H. Larwood
- Southwestern State College School of Pharmacy:** W. L. Dickison, W. D. Strother
- University of Oklahoma College of Pharmacy:** Ralph W. Clark
- Oregon State College School of Pharmacy:** B. F. Cooper, Leo A. Sciuchetti
- Duquesne University School of Pharmacy:** John G. Adams, Arnold C. Neva
- Philadelphia College of Pharmacy and Science:** Martin Barr, Marin S. Dunn, L. F. Tice
- Temple University School of Pharmacy:** Charles F. Peterson, Joseph B. Sprowls
- University of Pittsburgh School of Pharmacy:** Joseph A. Bianculli, Joseph P. Buckley, William J. Kinnard
- University of Rhode Island College of Pharmacy:** H. W. Youngken, Jr.
- Medical College of South Carolina School of Pharmacy:** W. A. Prout
- University of South Carolina School of Pharmacy:** R. W. Morrison
- South Dakota State College Division of Pharmacy:** Guilford C. Gross, Gary Omodt, Kenneth Redman, Norval E. Webb
- University of Tennessee School of Pharmacy:** Seldon D. Feurt
- Texas Southern University School of Pharmacy:** Edward J. Eugene
- University of Houston College of Pharmacy:** N. M. Ferguson
- University of Texas College of Pharmacy:** C. C. Albers, R. G. Brown, Henry M. Burlage, W. J. Sheffield
- University of Utah College of Pharmacy:** L. David Hiner, James D. McMahon, Robert V. Petersen, Ewart A. Swinyard
- Medical College of Virginia School of Pharmacy:** Warren E. Weaver
- Washington State University School of Pharmacy:** Haakon Bang, V. N. Bhatia, M. R. Gibson, C. F. Martin, A. I. White
- University of Washington College of Pharmacy:** Lynn R. Brady, E. Roy Hammarlund, Alain C. Huitric, Edward Krupski, Jack E. Orr, Varro E. Tyler, Jr.
- West Virginia University College of Pharmacy:** J. Lester Hayman
- University of Wisconsin School of Pharmacy:** L. W. Busse, T. Higuchi, A. H. Uhl
- University of Wyoming College of Pharmacy:** Raymond J. Kahl, David W. O'Day
- AFFILIATE MEMBERS—Canada**
University of British Columbia Faculty of Pharmacy: Allan M. Goodeve, Leona Goodeve, Finlay A. Morrison

PAST PLACES OF MEETING AND PAST OFFICERS, AACP

PLACES OF MEETING

1. Richmond, Va., May 8-10, 1900
2. St. Louis, Mo., September 19-20, 1901
3. Philadelphia, Pa., September 12-15, 1902
4. Mackinac Island, Mich., August 3-5, 1903
5. Kansas City, Mo., September 7-8, 1904
6. Atlantic City, N.J., September 5-7, 1905
7. Indianapolis, Ind., September 5-6, 1906
8. New York, N.Y., September 4-5, 1907
9. Hot Springs, Ark., September 8-10, 1908
10. Los Angeles, Calif., August 17-18, 1909
11. Richmond, Va., May 4-5, 1910
12. Boston, Mass., August 16-17, 1911
13. Denver, Colo., August 20-22, 1912
14. Nashville, Tenn., August 20-21, 1913
15. Detroit, Mich., August 25-26, 1914
16. San Francisco, Calif., August 6-7, 1915
17. Philadelphia, Pa., September 1-2, 1916
18. Indianapolis, Ind., August 27-28, 1917
19. Chicago, Ill., August 12-13, 1918
20. New York, N.Y., August 25-27, 1919
21. Washington, D.C., May 5-6, 1920
22. New Orleans, La., September 5-6, 1921
23. Cleveland, Ohio, August 14-15, 1922
24. Asheville, N.C., September 3-4, 1923
25. Buffalo, N.Y., August 25-26, 1924
26. Des Moines, Iowa, August 24-25, 1925
27. Philadelphia, Pa., September 13-14, 1926
28. St. Louis, Mo., August 22-23, 1927
29. Portland, Me., August 20-21, 1928
30. Rapid City, S.D., August 26-27, 1929
31. Baltimore, Md., May 5-6, 1930
32. Miami, Fla., July 27-28, 1931
33. Toronto, Canada, August 22-23, 1932
34. Madison, Wis., August 28-29, 1933
35. Washington, D.C., May 7-8, 1934
36. Portland, Ore., August 5-6, 1935
37. Dallas, Texas, August 24-25, 1936
38. New York, N.Y., August 16-17, 1937
39. Minneapolis, Minn., August 22-23, 1938
40. Atlanta, Ga., August 21-22, 1939
41. Richmond, Va., May 6-7, 1940
42. Detroit, Mich., August 18-19, 1941
43. Denver, Colo., August 17-18, 1942
44. Columbus, Ohio, September 9-10, 1943
45. Cleveland, Ohio, September 7-8, 1944
46. Washington, D.C., (Executive Committee only), November 8-10, 1945
47. Pittsburgh, Pa., August 25-27, 1946
48. Milwaukee, Wis., August 24-25, 1947
49. San Francisco, Calif., August 8-10, 1948
50. Jacksonville, Fla., April 24-26, 1949
51. Atlantic City, N.J., April 29-May 2, 1950
52. Buffalo, N.Y., August 26-28, 1951
53. Philadelphia, Pa., August 21-22, 1952
54. Salt Lake City, Utah, August 16-18, 1953
55. Boston, Mass., August 22-24, 1954
56. Miami Beach, Fla., May 1-3, 1955
57. Detroit, Mich., April 8-10, 1956
58. New York, N.Y., April 28-30, 1957
59. Los Angeles, Calif., April 20-22, 1958
60. Cincinnati, Ohio, August 15-18, 1959
61. Boulder, Colo., July 3-4, 1960

PAST OFFICERS OF THE ASSOCIATION

Presidents

*Albert A. Prescott.....	1900-01	*Wortley F. Rudd.....	1919-20
*Joseph P. Remington.....	1901-02	*Wilbur J. Teeters.....	1920-21
*Edward Kremers.....	1902-03	*Clair A. Dye.....	1921-22
*Henry K. Rusby.....	1903-04	*Charles H. LaWall.....	1922-23
*George B. Kauffman.....	1904-05	*Charles W. Johnson.....	1923-24
*Henry M. Whelpley.....	1905-06	*Washington H. Zeigler.....	1924-25
*James H. Beal.....	1906-07	Edward H. Kraus.....	1925-26
*John T. McGill.....	1907-08	*David B. R. Johnson.....	1926-27
*Henry P. Hunson.....	1908-09	*Edward Spease.....	1927-28
*William M. Searby.....	1909-10	*Andrew G. DuMez.....	1928-29
*Julius O. Schlotterbeck.....	1910-12	*J. Grover Beard.....	1929-30
*Albert O. Clark.....	1912-13	*Julius W. Sturmer.....	1930-31
*Albert Schneider.....	1913-14	*Townes R. Leigh.....	1931-32
*Frederick J. Wulling.....	1914-15	*Charles H. Stocking.....	1932-33
*Harry V. Army.....	1915-16	*L. D. Havenhill.....	1933-34
*Rufus A. Lyman.....	1916-17	Ernest Little.....	1934-35
*Henry Kraemer.....	1917-18		
*Charles B. Jordan.....	1918-19		

*Deceased

American Journal of Pharmaceutical Education

Robert C. Wilson.....	1935-36	J. Lester Hayman.....	1948-49
*Theodore J. Bradley.....	1936-37	*Bernard V. Christensen.....	1949-50
*William G. Crockett.....	1936-37	Hugo H. Schaefer.....	1950-51
*Hugh C. Muldoon.....	1937-38	J. Allen Reese.....	1951-52
*Earl R. Serles.....	1938-39	Troy C. Daniels.....	1952-53
Charles H. Rogers.....	1939-40	Edward C. Reif.....	1953-54
*H. Evert Kendig.....	1940-41	Joseph B. Burt.....	1954-55
Rudolph A. Kuever.....	1941-42	Linwood F. Tice.....	1955-56
Howard C. Newton.....	1942-43	Harold G. Hewitt.....	1956-57
Forest J. Goodrich.....	1943-44	Thomas D. Rowe.....	1957-58
Glenn L. Jenkins.....	1944-46	Louis C. Zopf.....	1958-59
Henry S. Johnson.....	1946-47	Charles W. Bliven.....	1959-60
Arthur H. Uhl.....	1947-48		
Vice Presidents			
*Joseph P. Remington.....	1900-01	*Henry A. Langenham.....	1930-31
*Edward Kremers.....	1901-02	Edward D. Davy.....	1931-32
*Henry H. Rusby.....	1902-03	Robert C. Wilson.....	1932-33
*George B. Kauffman.....	1903-04	Ernest Little.....	1933-34
*C. Lewis Diehl.....	1904-06	Antone O. Mickelsen.....	1934-35
*John T. McGill.....	1906-07	Homer C. Washburn.....	1935-36
*Clement B. Lowe.....	1907-08	*William G. Crockett.....	1936-37
*Alvis B. Stevens.....	1908-09	Elmer L. Hammond.....	1937-38
*Elie H. LaPierre.....	1909-10	James M. Dille.....	1938-39
*Wilbur J. Teeters.....	1910-11	*Marion L. Jacobs.....	1939-40
*Albert H. Clark.....	1911-12	Eugene O. Leonard.....	1940-41
*Albert Schneider.....	1912-13	Perry A. Foote.....	1941-42
*Edsel A. Ruddiman.....	1913-14	A. B. Lemon.....	1942-43
*Harry V. Arny.....	1914-15	Henry S. Johnson.....	1943-44
*Rufus A. Lyman.....	1915-16	*Gordon L. Curry.....	1944-46
*Theodore J. Bradley.....	1916-17	*William F. Sudro.....	1946-47
*Charles E. Caspari.....	1917-18	*John F. McCloskey.....	1947-48
William Mansfield.....	1918-19	J. Allen Reese.....	1948-49
*Julius A. Koch.....	1919-20	Thomas D. Rowe.....	1949-50
*Washington H. Zeigler.....	1920-21	Harold G. Hewitt.....	1950-51
*Evander F. Kelly.....	1921-22	Troy C. Daniels.....	1951-52
*Charles H. Stocking.....	1922-23	L. David Hiner.....	1952-53
*Edward V. Howell.....	1923-24	Kenneth L. Waters.....	1953-54
Robert P. Fischelis.....	1924-25	Chauncey I. Cooper.....	1954-55
*J. Grover Beard.....	1925-26	Francis J. O'Brien.....	1955-56
*Andrew G. DuMez.....	1926-27	Thomas D. Rowe.....	1956-57
Henry M. Faser.....	1927-28	*John F. McCloskey.....	1957-58
Charles E. F. Mollett.....	1928-29	Charles W. Bliven.....	1958-59
*Earl R. Serles.....	1929-30	Henry M. Burlage.....	1959-60
Secretary-Treasurers			
*Wymond H. Bradbury.....	1900-01	Zada M. Cooper.....	1922-42
*Wilbur L. Scoville.....	1901-04	Clark T. Eidsmoe.....	1942-47
*Julius O. Schlotterbeck.....	1904-08	Louis C. Zopf.....	1947-53
*George C. Dickman.....	1908-10	Richard A. Deno.....	1953-56
*Charles W. Johnson.....	1910-13	George L. Webster.....	1956-60
*Wilbur J. Teeters.....	1913-17	Charles W. Bliven.....	1960-
*Theodore J. Bradley.....	1917-22		
Chairmen of the Executive Committee			
*James H. Beal.....	1900-03	Ernest Little.....	1936-41
*Henry M. Whelpley.....	1903-05	Charles H. Rogers.....	1941-43
*William A. Puckner.....	1905-08	*B. V. Christensen.....	1943-48
*Julius A. Koch.....	1908-19	Joseph B. Burt.....	1948-53
*Henry Kraemer.....	1919-20	Louis C. Zopf.....	1953-58
*Rufus A. Lyman.....	1920-23	Harold G. Hewitt.....	1958-
*Charles B. Jordan.....	1923-36		

Announcements

Instructions to Authors. Manuscripts submitted to the editor, reports to be published, and articles presented to the sections of the Conference of Teachers should conform to standard specifications. All material submitted for publication should be prepared in a manner that eliminates undue editorial changes. Material must be typewritten with double spacing on one side of paper 8.5" x 11" in size and with 1" to 1.5" margins, and submitted in original and one carbon. All pages should be numbered consecutively.

For all material, except reports of committees, delegates, and officers, the title on the first page should be followed by the author's name without reference to institution of affiliation, title, or degree. Attached to the article should be a separate sheet of paper which indicates the title of the paper, the author, his position, and his highest academic degree.

Reports of officers, delegates, and committee chairmen to be submitted for publication should be headed by the official name of the contributor's office, unit, or committee. The Association name should not be included in such a heading. At the end and on the last page of the report should appear the name of the officer, delegate, or committee chairman. No biographical information is required for individuals submitting such reports.

In all articles, side sub-headings must be used when appropriate. These should not be numbered. Literature citations

should be numbered immediately following reference and should be numbered consecutively in order of appearance in manuscript. These numbers should be full-sized Arabic numerals enclosed in parentheses. Subsequent citations to the same reference should be indicated by the original number assigned. References to footnotes throughout the text should be numbered consecutively by superscript Arabic numerals, but such references in a table should be designed by superscript lower case letters beginning with "a." Literature references should be grouped at the end of the article under the heading "References" and in sequence of appearance in the text. These should be preceded by the appropriate reference numbers in parentheses. The names of all periodicals cited in the list of references must be abbreviated in accordance with abbreviations given by *Chemical Abstracts* in its "List of Periodicals Abstracted." Citations of periodicals and books should follow the form required by the *Journal of Pharmaceutical Sciences*, except that book titles should be underscored for printing in italics and not enclosed in quotation marks. *Webster's New International Dictionary* is used as the authority for spelling and use of terms. *A Manual of Style* (University of Chicago Press) is the authority for form.

Numbers of less than three digits should be written in words. Numbers of three or more digits should be written in Arabic numerals unless occurring at

the beginning of a sentence, in which case the numerals should be spelled out. Periods of time should be written in words. Decimal numbers should always appear in figures as well as all numbers expressing per cent, which is written as two words.

The following words should be capitalized: the word *committee* when referring to a specific committee; the word *association* when referring to the American Association of Colleges of Pharmacy; the name of a specific department of a specific school; and, terms *college* and *school* when specific ones are meant. The following words should not be capitalized: areas of study; officer's, academic and equivalent titles unless they directly precede the individual's name; classes; and course names.

Film titles, pamphlets, published documents, newspapers, periodicals, and journals should be underlined to indicate printing in italics. Abbreviations of organizations where the abbreviation is all capital letters should not have periods nor spacing (Example: AACP, AFPE, but A.Ph.A.).

Well-prepared glossy photographic prints are accepted in a limited number. The budget of the *Journal* allows in each volume a limited number of cuts which are printed at no cost to the authors. If the *Journal* is not able to include an author's cuts because of budgetary limitations, the author or the institution represented may pay for such cuts to be included.

Authors wishing to retain photoengravings of illustrations or original drawings and photographs must indicate this desire when returning proofs. Engravings, drawings, and photographs for which no requests are received will be destroyed after each issue of the *Journal* is published.

Photographs should be submitted in envelopes properly padded to prevent damage. All figures submitted must be

referred to in the text of the manuscript and should be numbered consecutively with Arabic numerals, e.g., Fig. 1, Fig. 2, etc. Titles of figures should be typewritten on separate pieces of paper. Figure numbers corresponding to titles should be *lightly* written in one corner on the back of the prints.

The number of tables submitted should be kept to a minimum. They should be constructed to occupy no more than the width of the page, seventy type-characters and spaces for regular type and eighty-five for reduced type. Committee reports of the Association will be printed in reduced type. All tables should be referred to in the text of the manuscript at the appropriate point of inclusion, and should be numbered in Roman numerals. The table number and title should be placed in a heading above the table, flush to the left margin.

The *Journal* maintains a limited staff; hence, all material not conforming to the above specifications will be returned to authors for correction.

Authors should read galley proofs carefully and compare them with the manuscript. All editorial questions, either in the manuscript or proof, should be carefully answered.

In making changes in galley, authors should bear in mind that changing the length of any line will probably necessitate resetting the remainder of the paragraph. A corresponding condensation or addition can often be made to preserve the original length of the line. Excessive changes in proofs will be charged to the author.

Reprints may be obtained at the prices quoted each author when proofs are delivered. Reprints must be ordered when the galley proofs are returned by the author. If reprints are not ordered at that time, it will be understood that no reprints are desired.

The editor will be glad to answer any

questions authors may have concerning the specifications indicated above.

Third Annual Pharmacy Congress. The program for the Third Annual Pharmacy Congress to be sponsored by St. John's University College of Pharmacy on March 17, 1961, at the University campus in Jamaica has been announced by the Arrangements Committee. The format will consist of four separate panels to be held simultaneously on Community Pharmacy, Hospital Pharmacy, Industrial Pharmacy, and Medical De-

Dr. Frederick Lascoff, noted community pharmacist and president of J. Leon Lascoff and Son, Apothecaries, will direct the Community Pharmacy section. J. Chervenak, manager of the New York Sales Region, E. R. Squibb and Sons, will act as chairman for the Medical Detailing section; and Norman Baker, apothecary in chief, New York Hospital, will arrange the section on Hospital Pharmacy. The final moderator will be Dr. Charles I. Jarowski, director of Pharmaceutical Research and Development for Charles Pfizer and Company, who will chair the section on Industrial Pharmacy.

Third Annual National Industrial Pharmaceutical Research Conference. The 1961 Research Conference is scheduled June 4-7, 1961, at King's Gateway, Land O'Lakes, Wisconsin, the site of the two previous conferences.

The theme of this year's conference is "Physical Stability of Disperse Systems." Authoritative speakers from both education and industry will present papers in their area of specialty. This year's program will attempt to examine critically both the basic and applied aspects of disperse systems.

Attendance will be limited to 145 registrants (including program personnel) actively engaged in pharmaceutical research or production, or in pharmaceutical education. Facilities are not

available for other than registrants. The total fee, including registration, lodging and meals, is \$95.00.

For further information write Richard S. Strommen, University of Wisconsin, Extension Services in Pharmacy.

Rho Chi Election Results. Dr. Edward J. Rowe, professor of pharmacy, College of Pharmacy, Butler University, was elected vice president and Dr. L. E. Bingenheimer, associate professor of pharmaceutical chemistry, School of Pharmacy, University of Tennessee, was elected secretary-treasurer of Rho Chi Society in the recent mail ballot of the chapters. These officers-elect will be installed at the close of the 1961 convention to serve two-year terms.

Tellers for the election were Dr. Donald B. Meyers, Dr. John W. Martin, and Dr. Russell F. Parke of Phi Chapter.

Rules Governing Competition for the Kilmer Prize. The American Pharmaceutical Association makes an annual award for the best paper based on research in pharmacognosy by a member of the graduating class of one of the accredited colleges of pharmacy. This award is known as the Kilmer Prize.

A Committee on Kilmer Prize is appointed by the Scientific Section of the Association to judge the papers entered, and to select the prize-winning entry. This year the Committee consists of the following: Chairman, Varro E. Tyler, Jr., College of Pharmacy, University of Washington, Seattle 5, Washington; Marin S. Dunn, Philadelphia College of Pharmacy and Science, Philadelphia 4, Pennsylvania; and E. John Staba, College of Pharmacy, University of Nebraska, Lincoln 8, Nebraska.

The following rules have been established for this competition:

1. The individual who submits a paper in competition must be a member of the graduating class of the year in which the award is made.

Candidates for advanced degrees are not eligible. The paper must be the result of the student's own work in the field of pharmacognosy, and may be based upon laboratory or library research or both.

2. The paper must be presented in triplicate to the Assistant Director, Scientific Division, American Pharmaceutical Association. *There should be no means of identification written into the paper in any way.* The paper must not reveal the identity of the school or any of the teachers connected therewith. Accompanying the paper there must be a sealed envelope containing the address of the contestant and a certified statement from an officer of the institution that the contestant is a regularly registered senior and a candidate for graduation.

3. All papers entered in the competition for the 1961 Kilmer Prize Award must reach the Assistant Director, Scientific Division, American Pharmaceutical Association, *not later than March 1, 1961.*

4. If the Committee on Kilmer Prize finds no paper sufficiently meritorious, no award will be made.

5. The Chairman of the Committee on Kilmer Prize will supply additional information to deans and professors of pharmacognosy upon request.

1961 AACP meeting. AACP Secretary Charles W. Bliven recently announced the preliminary plans for the Annual Meeting of the Association to be held in Chicago the week of April 23. It is planned that the general sessions will be held Sunday afternoon, April 23, and Tuesday morning and afternoon, April 25. The section meetings, except that of graduate instruction, will be held Monday afternoon. The Section on Graduate Instruction will meet Monday evening, and following the meeting of this section, the

Council on Conference of Teachers will hold its meeting.

21st International Congress of Pharmaceutical Sciences. The 1961 meeting of the International Congress of Pharmaceutical Sciences will convene in Pisa, Italy, from September 4 to 8. The Congress will discuss various aspects of suspensions and emulsions through a symposium on "Suspensions, Emulsions and Foams in Pharmacy." Experts in the pharmaceutical sciences will have the opportunity to disclose the results of their researches by participating in one or more of the five sections which have been set up: (1) pharmacognosy and medicinal plants, (2) pharmaceutical chemistry and the analysis of medicaments, (3) biological chemistry, toxicological and food chemistry, (4) galenic pharmacy and pharmaceutical technology, and (5) pharmacodynamics, biological and microbiological determinations. The general secretary of the Congress is Prof. Dott. A. E. Vitolo, Piazza Carrara, 10, Pisa, Italy.

1961 National Health Forum. The National Health Council has issued invitations for the 1961 forum to be held at the Waldorf-Astoria Hotel in New York, March 14-16. Discussion will be concerned with "Better Communications for Better Health." It is reported that the forum will analyze problems of health communication, evaluate what is being done, review newer communication methods and techniques, direct public and professional attention to the need for better health communication, and identify action potentials. Attendance will be by invitation.

ASP Negotiates New Publishing Venture. The newest American pharmaceutical society, the American Society of Pharmacognosy, in 1961 will join an old and respected library and museum, the Lloyd Library and Museum of Cincinnati, Ohio, to publish jointly *Lloydia*,

A Quarterly Journal of Pharmacognosy and Allied Biological Sciences. The American Society of Pharmacognosy was formed in 1959 as an outgrowth of the yearly meeting of the Plant Science Seminar which for many years has served as a discussion forum for persons interested in drugs of natural origin.

This year the ASP completed negotiations to assume joint publishing responsibilities for *Lloydia*. First published in 1938, *Lloydia* has in recent years developed its contents in the area of botany. Under the sponsorship of the ASP the publication will again assume a pharmaceutical flavor in keeping with its title *Lloydia*, named after the benefactors of the Lloyd Library and Museum who were pioneers in pharmaceutical manufacturing: John Uri Lloyd, Nelson Ashley Lloyd, and Curtis Gates Lloyd.

Lloydia, under its new joint sponsorship, will be edited by a distinguished pharmacognosist, Dr. Arthur E. Schwarting of the University of Connecticut. An Editorial Advisory Board with an international flavor has been named which includes pharmacognosists and botanists from the United States, England, The Netherlands, France, and Sweden. The Advisory Board is composed of the following: Dr. C. J. Alexopoulos, Department of Botany, State University of Iowa; Mr. W. E. Anderson, The Central Trust Company, Cincinnati; Dr. W. H. Camp, Department of Botany, University of Connecticut; Dr. Bryce Douglas, Smith, Kline & French Laboratories; Dr. J. W. Fairbairn, School of Pharmacy, University of London; Dr. Norman Farnsworth, School of Pharmacy, University of Pittsburgh; Dr. Arthur Galston, Gibbs Research Institute, Yale University; Dr. Melvin R. Gibson, School of Pharmacy, Washington State University; Dr. R. Hegnauer, University of Leiden; Dr. R. Paris, Faculty of Phar-

macy, University of Paris; Dr. F. Sandberg, Kungl Farmaceutiska Institutet, Stockholm; Dr. Eric Smith, S. B. Penick and Company; Dr. Varro E. Tyler, Jr., College of Pharmacy, University of Washington; Dean Heber W. Youngken, Jr., College of Pharmacy, University of Rhode Island; and Dr. Heber W. Youngken, Sr., Massachusetts College of Pharmacy.

Lloydia, in its new format, will publish technical articles of research achievement in pharmacognosy, botanical sciences, and chemistry which are appropriate for the journal's scope and tradition. It is also planned that each issue will contain a review article.

It is anticipated that under its new joint sponsorship *Lloydia* will have greater appeal to the pharmaceutical profession. Subscriptions for this quarterly should be directed to the Lloyd Library and Museum, 309 West Court Street, Cincinnati 2, Ohio. The subscription price is \$4.00 a year; single copies may be purchased for \$1.25.

BIRTHS

James Wesley Cronk—born December 6, 1960, to Dr. and Mrs. Dale H. Cronk, Northeast Louisiana State College.

Antoinette Rochell Jenkins—on December 2, 1960, became the daughter of Mr. and Mrs. Murphy D. Jenkins, Florida A & M University, Tallahassee, Florida.

Stephanie T. Osiecki—born December 7, 1960. Parents are Mr. and Mrs. Walter G. Osiecki. Mr. Osiecki is assistant in pharmacognosy and biology, New England College of Pharmacy.

Sharon Anne Theodore—born October 21, 1960. Parents are Mr. and Mrs. Joseph M. Theodore, Jr. Mr. Theodore is instructor in pharmacy, New England College of Pharmacy.

Shirley Ann Sih—born July 13, 1960, to Dr. and Mrs. Charles J. Sih, Uni-

versity of Wisconsin School of Pharmacy.

Celia Jean Foegen—born July 31, 1960, to Captain and Mrs. George J. Foegen, University of Wisconsin School of Pharmacy.

MARRIAGES

Dr. Nathan A. Hall, associate professor of pharmacy, University of Washington, to Miss Florence L. Turnbull, on December 14, 1960.

Miss Ellen Lawseth, director of the clinical pharmacy, University of The Pacific, was married to Mr. Francis Romano, November 19, 1960.

NEW STAFF MEMBERS

Brooklyn College of Pharmacy. Dr. Harry Baron has been appointed professor of chemistry. Dr. Baron was formerly associate professor of biochemistry at the New York Medical College.

University of Rhode Island College of Pharmacy. The following people have joined the staff of the College of Pharmacy, University of Rhode Island:

Dr. Charles I. Smith, Squibb Institute for Medical Research, has been appointed associate professor of pharmaceutical chemistry. Dr. Smith has his Ph.D. from the University of Maryland.

Dr. Robert J. Gerraughty, Rutgers University, has been appointed assistant professor of pharmacy. Dr. Gerraughty has his Ph.D. from the University of Connecticut.

Mr. Everett R. Rand, Brooklyn College of Pharmacy, has been appointed assistant professor of pharmacy administration. Mr. Rand is a doctoral candidate at Long Island University, Brooklyn College of Pharmacy.

Mr. John A. Rosecrans, a doctoral candidate at the University of Rhode Island, has been appointed an instructor in pharmacology.

Dr. Rosaire E. Plourde has been appointed a post-doctoral research fellow in the department of pharmacognosy. Dr. Plourde is on leave of absence from his position as associate professor of pharmacognosy at the University of Montreal.

Massachusetts College of Pharmacy. New faculty members are: Dr. William S. Sahakian, professorial lecturer in psychology; Bernard A. Forest, instructor in mathematics; Elba O. Carrier, instructor in mathematics; George C. Page, assistant in biological sciences.

State University of Iowa. Mr. David D. Almquist has been appointed to fill the position of assistant pharmacist, department of drug service, to replace Mrs. Shirley Winckler who has resigned due to ill health.

CHANGES IN STAFF TITLES

Brooklyn College of Pharmacy. Dr. Harold I. Silverman has been promoted from assistant professor of pharmacy to associate professor.

Mr. Isidore Greenberg has been promoted from assistant professor of pharmacy administration to associate professor.

Massachusetts College of Pharmacy. Dr. Joseph Skinner has been promoted from instructor in languages and history to assistant professor; Floyd J. Taylor from assistant in English, public speaking, and philosophy to instructor; Robert L. d'Entremont from assistant in English to instructor in English and sociology.

Mercer University, Southern College of Pharmacy. Dr. Harold Zallen has been appointed associate professor of pharmaceutical chemistry.

Dr. Douglas Johnson has been appointed director of admissions for the pharmacy school effective January 1, 1961.

PROFESSOR

FREDERICK T. BRADT

Frederick T. Bradt, the first teacher of materia medica at Wayne State University College of Pharmacy, passed away on November 10, 1960, of a cerebral hemorrhage. A graduate of Kalamazoo College in 1909, he obtained the Ph.C. and B.S. from the University of Michigan in 1914. He joined the staff of the Cass Technical High School and served on the faculty in the pharmacy program which was later moved to the City College of Detroit, the forerunner of Wayne State University.

In 1925, he became senior instructor at Wayne State University, and a year later was appointed head of the Department of Materia Medica. In 1940, he became senior assistant professor, responsible for course work in pharmacology and pharmacognosy, as well as academic advising and counseling. Beloved by students and faculty alike, he retired after forty years of teaching and active work in pharmacy to his farm in Ionia, Michigan, where he and his wife took an active interest in community affairs and the rehabilita-

tion of young men recently released from penal institutions.

Professor Bradt was a member of the A.Ph.A., Michigan Academy of Pharmacy, Michigan Educational Association, Phi Delta Chi, and the Rho Chi Society. He was the recipient of the David Mackenzie Award and the Donnelly Award for outstanding service to Wayne State University.

Professor Frederick T. Bradt was a very capable teacher. He was more—he was a great educator.

To be a good college teacher requires comprehensive knowledge of a specialty, but to be an efficient educator demands, in addition, an intelligent, imaginative and inspirational leadership. An educator is a builder of character as well as a designer of mental development. These fine attributes were displayed by Professor Bradt during a long and effective educational career.

There are few vocations which test a man's inherent and acquired talents, the breadth and depth of his interests and his capability of accomplishment and sincerity of purpose to the extent a lifetime devoted to education does. Frederick T. Bradt passed this crucial test with honors.

Professor Bradt's enduring memory resides in the heart and minds of his former students, colleagues and friends. No man could have a more honorable monument.

Harold E. Bailey
and Roland T. Lakey

Cheney to editorial post. Dr. Ralph H. Cheney, professor of biology, Brooklyn College of Pharmacy, will serve as the American editor of a new European bio-medical periodical, the *Journal of Botanic Drug Research*, to be published in Amsterdam, The Netherlands.

Plan historical markers. A plan to mark historical sites of national significance to pharmacy will be sponsored by the American Institute of the History of Pharmacy. According to Dr. Eunice Bonow of Milwaukee, chairman of the Institute's Committee on Historical Markers, the program will provide permanent reminders to the public and to pharmacists of some of the most notable achievements in American pharmacy.

The Institute proposes to foster erection of historical markers to draw attention to the national import of basically three general types of sites: (1) discoveries of pharmaceutical significance; (2) the founding of institutions or organizations of pharmacy; (3) outstanding pharmaceutical personalities—their birthplace, residence, or place of practice.

New program at Colorado. The University of Colorado School of Pharmacy will begin a continuing program of pharmaceutical education during the 1961 summer term.

For the first time the school will have summer course offerings which will be integrated with the regular academic year program, making it possible for students to condense their five academic years of study required for the pharmacy degree into three and one-half or four years.

The new plan also permits students to enroll in the school at the beginning of any term instead of only at the start of the fall term as has been the case.

Pharmacy school officials said the flexibility of the new plan will enable students to progress toward a degree as fast as they wish. Students will not be penalized if they stay out of school a term and then return.

SK&F distributes collection. Manuscripts of twenty-one scientific papers, many of them

translated into English for the first time, are being distributed to American pharmacy schools by Smith Kline & French Laboratories.

The collection is designed "to aid the research activities of students and faculty members by providing them with useful information not readily available elsewhere," Dr. Rudolph Blythe, director of pharmaceutical research for the Philadelphia firm said.

Included in the collection are foreign research papers translated at SK&F, previously unpublished SK&F research studies, and patent translations.

While the material touches primarily the field of pharmacy, some of the papers also contain studies in related chemical and biological sciences which are part of the pharmacy school curricula.

The collection is part of SK&F's continuing program of support to American pharmacy education.

New journal. The *Journal of New Drugs*, to be edited by Dr. Donald K. Adler, is scheduled to begin publication early in 1961. The journal will publish clinical papers dealing exclusively with new drugs or new uses of established drugs. For further information write 660 Madison Avenue, New York 21, New York.

Cook honored. Roy Bird Cook, Charleston, W.Va. has been designated as honorary president of the American Institute of the History of Pharmacy.

Davis speaks. Dr. John E. Davis, professor of pharmacology of the College of Pharmacy, University of Texas, lectured on "The Pharmacology of Pre-anesthetic Medication" at the Annual Assembly of the American Osteopathic College of Anesthesiologists in Dallas, Texas, November 1, 1960.

MLA convention. The Medical Library Association has invited the Second International Congress on Medical Librarianship to meet in Washington, June 16-22, 1963, at the time set for its own Sixty-Second Annual Convention.

Development of plans for the Congress to date include the appointment of Dr. Frank B. Rogers as general chairman and Miss M. Ruth MacDonald as executive secretary and the establishment of an Organizing Committee with special responsibilities for program development. The Congress Secretariat will be located in the National Library of Medicine.

Picchioni speaks. Dr. Albert L. Picchioni, professor of pharmacology at The University of Arizona's College of Pharmacy, presented brain chemistry research findings at the November 4 meeting of the Eastern Psychiatric Association in New York. Picchioni is directing a three-year investigation aimed at determining how much neurohormone amounts in the brain are altered by electric shock treatment.

St. John's grant renewed. St. John's University's College of Pharmacy has received a renewal of a \$3,000 grant-in-aid from the General Chemical Division of Allied Chemical Corporation for continuation of research in the field of medicinal and pharmaceutical aerosols, it has been announced by Dean Andrew J. Bartilucci.

The project is under the direction of Dr. John J. Sciarra, associate professor pharmaceutical chemistry.

A.Ph.A. journal changes. The January, 1961 issues of the A.Ph.A. journals presented new, improved designs and formats. The scientific edition of the A.Ph.A. journal was renamed the *Journal of Pharmaceutical Sciences*, while the practical edition is now known as the *Journal of the American Pharmaceutical Association*. Both journals have been improved and expanded, but continue to serve the same general purposes and audiences as they have in the past.

Montana travelling seminar. The postgraduate seminar in pharmacy co-sponsored by the Montana State University and the Montana State Pharmaceutical Association has been reestablished as an on-the-road extension service to practicing pharmacists in Montana. The program has been scheduled for presentation in Great Falls, Missoula, and Billings.

New building plans at Iowa. Bids have been opened and analyzed for the new University of Iowa College of Pharmacy building on which construction should begin shortly after January 1. The building will be located near the University Hospitals in conformity with the plan to centralize the health professions.

New AIHP slide lecture. The American Institute of the History of Pharmacy has announced another slide-lecture in its series. The new release titled "Representative Hospital Formularies of the 18th and 19th Centuries" was prepared by Dr. Alex Berman, University of Michigan.

The lecture requires about thirty minutes to present the mimeographed text and twenty-one slides (2 by 2") that accompany it.

The series may be purchased by any pharmacist, and may be borrowed without charge by members of the AIHP.

New program at Texas. The College of Pharmacy of the University of Texas announces that funds have been made available for establishment of an aerosol laboratory for the further development of the work in manufacturing pharmacy which is offered to seniors and graduate students in the college of pharmacy. These funds were made available under the Excellence Program of the University.

Seminars for MCP clubs. Through a newly-organized system of alumni clubs, the Massachusetts College of Pharmacy is offering postgraduate opportunities to alumni in several areas of the country. In November, MCP faculty members presented "A Review of Incompatibilities" for pharmacists in Maine, New Hampshire, and Vermont. MCP Alumni Clubs also serve the Connecticut, New York, New Jersey, and Pennsylvania areas; new clubs are forming in Massachusetts, Florida, and California.

Public Health Forum at Brooklyn. A panel discussion, "Trade Names vs. Generic Names," will conclude the afternoon session of the Brooklyn College of Pharmacy's 8th annual Public Health Forum on April 12, 1961.

The panel will consist of a physician, a manufacturer, and a retailer. The moderator will be the dean of the College, Dr. Arthur G. Zupko.

The industry-wide program also will include talks on physician samples, cancer chemotherapy, and drug distribution.

Honorary degrees to Powers, Schmehl. The University of Michigan conferred honorary Doctor of Science degrees upon Justin L. Powers and Francis L. Schmehl at the recent ceremonies dedicating the new U-M Research Building. The men have been nationally prominent in the fields of pharmacy and research.

Charles H. Larwood honored. "Dean Larwood Week" was celebrated at the College of Pharmacy of the University of Toledo, November 6-12, 1960. The week was a tribute to Dean Larwood for his outstanding contributions to the school and the profession. Events included testimonial dinners, professional meetings, and gifts to the dean and to the school.

Parks to be 1961 Kremers Memorial Lecturer. Eta Chapter of Rho Chi Society, University of Wisconsin, has announced that Dr. Lloyd M. Parks, dean of the Ohio State University School of Pharmacy, will give the annual Kremers Memorial Lecture in memory of the Wisconsin School's second dean. The lecture will be presented April 12.

Pumpian speaks to nurses. Paul A. Pumpian, secretary of the Wisconsin State Board of Pharmacy, spoke on the pharmacy law as it relates to nursing at each of a recent series of Institutes sponsored jointly by the Wisconsin Nurses Association, the Wisconsin State Department of Nurses, and the District Nurses Association of Wisconsin. The Institutes, which were held in various parts of the state, were designed to acquaint Wisconsin nurses with the legal aspects of nursing, the medical practice act as it relates to nursing, the pharmacy law as it relates to nursing, and professional liability insurance.

Brooklyn lecture series. A series of lectures on study techniques and problems has been added to the regular Freshman Orientation Program at the Brooklyn College of Pharmacy. The lectures are given by Miss Dorcas Fick, presently Adviser to Women in the office of Student Affairs at Long Island University. The series deals with the following topics: Successful Studying, Getting Work Done, The Strategy of Study, Reading Better and Faster, Taking Notes, Taking Examinations, Writing Themes and Reports, Getting Help and Being Helpful.

Meyer retires. Dr. Minnie M. Meyer retired from the staff of the Mercer University, Southern College of Pharmacy in June, 1960.

NDAC changes name. The name of The North Dakota Agricultural College has been constitutionally changed to The North Dakota State University of Agriculture and Applied Science.

Becker visits Poland. Dr. Charles H. Becker, University of Florida, attended the Fifth Scientific Pharmaceutical Congress in Poz-

nan, Poland, September 22-24, representing the United States under the sponsorship of the National Science Foundation. Dr. Becker also served as a consultant to the Polish pharmaceutical industry, especially in regard to parenterals and to prolonging the storage life of pharmaceuticals.

AEC grant to PCPS. The U.S. Atomic Energy Commission has made a third grant to the PCPS for the purchase of equipment for its radiochemical laboratories. The total of the three grants is \$36,500.

Radiochemistry institute at PCPS. The NSF has announced that it will again sponsor at the PCPS an Institute for Radiochemistry for high school and college science teachers.

Claus appointed chairman. Dr. Edward P. Claus, dean of the Division of Pharmacy at Ferris Institute, has been appointed chairman of the Careers in Pharmacy Committee of the Michigan State Pharmaceutical Association for 1961.

Colleges host foreign visitors. S. E. E. Lertsen, Union of South Africa, was a recent visitor to the University of Arkansas and Dr. J. E. Dusenberry. Mr. Lertsen is on the staff of the South African Bureau of Standards.

Professor S. Morris Kupchan, University of Wisconsin, served as host this fall to Dr. T. S. Seshadri, professor of organic chemistry at Delhi University, and to Dr. A. S. Khokhlov of the Institute of Chemistry of Natural Compounds of the Academy of Sciences, Moscow.

Visiting the University of California were Mrs. Le Quang Kim, vice president of Viet Nam Women's Federation; Mr. Yoshimitsu Otsuka and Dr. Yukio Kobayashi of the Otsuka Pharmaceutical Factory in Takushima; and Dr. Zenichi Horii, dean of the Osaka University School of Pharmacy.

Dr. James Parkinson, dean of the School of Pharmacy of the Technical College at Brighton, England, visited several schools and colleges of pharmacy throughout the east and midwest during the fall months. Dr. Parkinson's tour was arranged cooperatively between the English-Speaking Union and the AACP.

COP changes name. On January 6, 1961, the College of the Pacific became the University of the Pacific. The school of pharmacy remains unchanged in the newly oriented situation.

Construction at MCP. The Development Committee of the Massachusetts College of

Pharmacy has announced the details of a comprehensive plan of progress which includes construction of a new four-story laboratory building in 1961. The new laboratory building will provide a total of 23,000 square feet of space. It will be completely air-conditioned with special areas designated for investigations under controlled conditions of temperature and humidity. A modern greenhouse will be erected on the roof of the new building, and a specially designed laboratory for the study and experimental use of radioactive isotopes will be constructed in the basement.

Advisory Council formed at St. Louis. The first meeting of the Charter members of the Advisory Council of the St. Louis College of Pharmacy was held at the college on November 15, 1960. The Council members met with the faculty and college board of trustees during a reception and tour of the college. Among the problems discussed were expansion of present facilities, development of a graduate and research program, and the advisability of establishing a junior college program. A memorial plaque honoring the late Dr. Charles E. Caspari was presented to the college on this occasion.

Reddish speaks at seminar. On November 21-22, 1960, Dr. George F. Reddish took part in a Seminar on Environmental Aspects of Institutional Infections at the Communicable Disease Center, U.S. Public Health Service, Atlanta, Georgia. This symposium discussed hospital infections with special emphasis on air, surface, and carriers of such infections and the routes of transmissions. Dr. Reddish discussed methods of determining the relative effectiveness of disinfectants in controlling such infections.

University of Toronto. Professor G. C. Walker and Professor D. R. Kennedy conducted a "Clinic on Drugs in Dentistry" at the Fall Clinic of the Toronto Academy of Dentistry.

Professor H. J. Fuller presented a paper "Retail Pharmacy Management" in Montreal at the Seminar sponsored by the Pharmacy Alumni, University of Montreal.

Dean F. N. Hughes attended a meeting of the Expert Committee on Pharmaceutical Standards, *International Pharmacopoeia*, at Geneva, Switzerland, December 4-9.

E. O. Kagy dies. Friends have been notified of the death of E. O. Kagy on December 30, 1960, at Tempe, Arizona, where he was residing with a daughter, Dr. Virginia Kagy. Dean Kagy served the colleges of pharmacy

in Des Moines, Iowa, for many years. A memorial will appear in the next issue of the *Journal*.

Grants received or renewed. The University of Pittsburgh School of Pharmacy has received two grants, totaling \$47,600, to study the actions of chemical agents on blood pressure and on the cardiovascular system. A three-year grant has been awarded by the National Institutes of Health for a project entitled "Evaluation and Mechanisms of Action of Anti-hypertensive Compounds." A one-year grant has been awarded by the Eaton Laboratories of Norwich, N.Y., to study the mechanisms of the antihypertensive action of furoxan. Also received was a one-year grant from Lakeside Laboratories, Milwaukee, Wisconsin, to support an investigation of antihypertensive compounds and psychopharmacologic agents. Dr. Joseph P. Buckley, professor of pharmacology, is directing all three projects.

Dr. John Autian, University of Texas, has been awarded a grant of \$2,400 from the Excellence Fund Allocations for 1960-61 by the Faculty Advisory Committee for research assistance and publications on "Evaluation of Diffusion Coefficients and Activation Energies of Drugs in Nylon."

The National Institutes of Health have awarded a three-year \$39,000 contract to Dr. H. C. Heim, University of Colorado School of Pharmacy, for a study on "The Effects of Drugs on Intermediary Metabolism of the Heart."

The National Institutes of Health has awarded the Medical College of Virginia a grant for the training of students in medicinal chemistry. The grant, the first of its kind, will support graduate students selecting their major in the department of chemistry and pharmaceutical chemistry. Any student with a bachelor's degree in science may apply; awards will be based primarily on ability and competence. Requests for application forms or further information may be sent to: The Dean, School of Graduate Studies, Medical College of Virginia, Richmond 19, Virginia.

Dr. Robert F. Doerge, Oregon State College, has received a grant of \$1,000 from the General Research Funds of the Graduate School to investigate and synthesize a new series of potential medicinal agents.

Dr. Carl C. Albers, University of Texas, has been awarded a grant in the amount of \$3,500 from the University Excellence Fund for Teaching and Research for the purchase of a vapor-phase chromatograph for research on essential oils.

Dr. Joseph Burckhalter, University of Michigan, has received two grants totaling \$166,000 from the Public Health Service for research on the synthesis of hypotensive amines and potential anti-cancer agents.

Dr. Elliot Spector, New England College of Pharmacy, has been awarded a renewal grant of \$10,327 from The National Institutes of Health for research on the metabolic aspects of mescaline degradation.

Dr. Norris W. Dunham, associate professor of pharmacology at Ferris Institute Division

of Pharmacy, has received an additional \$3,000 grant from the Upjohn Company to support his investigations of the pharmacologic activities of certain plant extracts.

The National Vitamin Foundation, Inc. has announced a grant of \$8,650 for two years to Dr. Duane G. Wenzel, professor of pharmacology, University of Kansas. The grant is for studies of the effect of positive inotropic agents on the myocardium with a B-vitamin avitaminosis.

Book Reviews

Arthur Rook, Editor

*Progress in the Biological Sciences in
Relation to Dermatology*

New York, New York: Cambridge University
Press, 1960. xv + 480 pp., 52 figs., 16 tbs.,
24 plates. \$15.00.

This is a collection of thirty-seven papers delivered in September, 1958, in the Post-Graduate Medical School of the University of Cambridge at a course for dermatologists in clinical practice. The course was designed to deal with topics in which significant advances are occurring and which offer particular promise for dermatological research.

The papers are organized into eleven major groupings; edited and abridged reports of discussions follow nine of these. The major headings are: (1) The Melanocytes and Melanogenesis, (2) Cutaneous Innervation, (3) The Histochemical Investigation of the Skin, (4) Bacteriology and Mycology, (5) Psychophysiological Mechanisms, (6) Comparative Medicine, (7) Immunology, (8) Inflammation, (9) Carcinogenesis, (10) Radiation and the Skin, (11) Pharmacology. There are two to five papers per topic. They range from a brief two-page preliminary communication (without references) about stickiness of the coat of guinea-pigs to a rather rambling eighteen-page review (ninety-four references) dealing with aspects of the mechanisms of therapeutic actions of ionizing radiations in malignant diseases. Well-written and informative papers include those by L. Foulds on "Current Concepts of Carcinogenesis," by H. B. F. Dixon on "Melanocyte-stimulating Hormones and Corticotropin" and by M. H. Gleason-White on "The Skin Flora and the Staphylococcus." A number of authors start with a brief review of their general topic and then concentrate rather specifically on reporting their own work. For example, R. H. Fox and S. M. Hilton discuss plasma kinen and active vasodilatation in skin in this fashion; K. C. Dixon similarly handles the topic of chemical features of epidermal damage. A paper on "Testing Patients for Photosensitivity" speaks rather more of techniques of a dermatological procedure than of biological matters. "The Mode of Action of Tranquilizing Drugs" presents only the work

of its author with chlorpromazine and perhaps could have been better titled so as to indicate its specificity. Also this paper does not relate itself to dermatology in any way. I did not feel the title "Comparative Medicine" was justified by the two papers included in this group. Most papers end with statements of questions as yet unanswered, with calls for new techniques and for further research. Bibliographies generally are up-to-date for the time of the conference with 1958 reports listed and with an occasional reference to papers to be published in 1959. Discussions after the papers are usually quite limited; the longest and most lively follows the section on psychophysiological mechanisms. Sometimes direct questions appear to be ignored; witness, on p. 374, the apparent lack of attempt to answer those posed by the chairman at the start of the discussion. Perhaps this stems from the editorial abridgement of these discussions.

The binding and paper appear to be of standard quality. Very few typographical errors were noted; these included an extra doublebond in the formula for Dopa quinone on p. 18 and an apparent reversal of identification lettering for the two curves in the figure on p. 345. The reproductions in the plants are generally of good quality although, in my opinion, some are too small to show very much. Omission of some plate figures might have lowered the price of the book without harm to its purpose (see Figs. 1, 2, 3 of Plate I, facing p. 168). Explanations of plate figures are at the end of each paper rather than adjacent to the plates. The subject and author indexes appear complete.

I suspect that these distinguished contributors probably presented a course quite satisfactory to the attending clinical dermatologists. However, material which is of interest to pharmacy students or researchers is limited. Perhaps a flash of inspiration might arise from some of the questions that are posed. There are leads to more complete review articles and to texts in the areas dealt with. I would not recommend this book for addition to a pharmacy library. It is not suitable as a text.

Walter Singer
University of California

Abraham Edelman, Editor
Radioactivity for Pharmaceutical and Allied Research Laboratories
New York and London: Academic Press, 1960. xii + 171 pp, 31 figs., 29 tpls. \$6.00.

Eleven papers on diverse topics, delivered at a symposium, have been assembled under this title; viz., "Effects and Utilization of Ionizing Radiation: Radiobiology as a Research Tool," "Development of an Electron Sterilizing Process," "The Use of Ionic Radiation in the Development of a Bioassay for Granulocytopenia: The Irradiated Albino Rat as a Test Animal for the Leucopenic Potential of Chemical Substances of Therapeutic Value," "Principles, Methods, and Areas of Usefulness of Radioactivity in the Pharmaceutical and Allied Sciences," "Determination of Sterols in Natural Products," "Application of Isotope Dilution Technique to the Analysis of an Insecticide and an Antibiotic," "Product Development and Product Evaluation—Areas of Radioisotope Applications," "Drug Absorption Distribution, and Excretion," "Radiobiochemistry in the Pharmaceutical Industry," "Use of Radioisotopes in Soap, Detergent, and Cosmetic Research," and "The Isotope Development Program of the Atomic Energy Commission." Each paper is an entity unto itself, loosely bound to others of the collection by the slim thread of radioactivity and its applications to industrial pharmaceutical research.

The individual papers vary considerably in scope, depth and breadth of coverage, and the titles are often deceiving. In several instances, titles which imply that a survey of the use of radioactivity in a general area of investigation will be forthcoming merely concern themselves with application to one or two specific problems in the field. Others on general topics often tend to treat the subject matter superficially, and, in one instance, the absence of reference citations renders the paper useless as a means for further readings in the general areas noted.

As a whole, the book is not well documented. A total of 155 reference citations are recorded, and these are unequally distributed: forty-three in one paper to none in two of the papers. This dearth will severely curtail its usefulness as a reference book.

Despite these faults, the book is worthy of inclusion on the shelves of pharmaceutical libraries. It should serve to stimulate the imagination of the novice with reference to applications of radioactivity to pharmaceutical fields.

Ara G. Paul
The University of Michigan

Albert Szent-Györgyi

Introduction to a Submolecular Biology
New York: Academic Press, 1960. x + 135 pp., 20 figs., 2 tpls. \$5.00.

This book is a tantalizing sequel to his earlier *Bioenergetics*, *Chemistry of Muscle Contraction*, and others. Eight chapters deal with "General Considerations" and the last four with "Problems and Approaches."

Submolecular biology is proposed as a scientific jaunt into the unknown just beyond the brink of the vast offerings of current biochemistry. The problem is no longer the discovery of those molecules which serve as the framework of bioenergetics but how they achieve energy transport. The author reviews the gross details of the passage of energy of solar photons captured by chlorophyll through carbohydrate synthesis to storage in ATP. He proposes that life is driven by the energy released by electrons dropping back into lower orbits, after being boosted to outer shells by photal energy.

A discussion of the units and measures of energy includes the orderly sequence of redox potentials and limitations in their measurements; ionization potentials of donor molecules; and orbital energies. Speculations to explain electron mobility involve consideration of electromagnetic coupling, Szent-Györgyi's semiconduction theory, and charge transfer.

The concept of charge transfer opens up an intriguing possibility. The transfer of one electron from one substance to another without rearrangement of a molecule and without loss of energy would make redox agents out of many compounds. Methods of measuring charge transfer and their limitations discussed include optical; magnetic, both by magnetic balance and electron spin resonance; and dipole moment. The problems of obtaining proximity of two molecules, holding them together, and passing energy from one to the other by charge transfer are illustrated by three examples. These are quinone-hydroquinone; riboflavin (PMN) and serotonin; and cortisone and I₂. The flowing of solids at greatly depressed temperatures is cited as a useful technique in demonstrating π - π and other interactions.

A chapter on "Miscellaneous Remarks" briefly reviews the role of water, the applicability of Hofmeister's lyotropic series, and metachromasia in charge transfer.

In the second part of the book, the author selects a few areas of biological research and enchantingly portrays the possibility of a fresh approach implemented by quantum physics. He suggests that the study of the

mechanism of drug action might well be on the basis of electron-donating or accepting properties of drug molecules and of the cellular molecules with which they react. For example, an electron-donating drug on the surface of a cell membrane could convey its package of electron energy through the membrane via the molecules of the membrane. Indoles (serotonin, lysergic acid, etc.) are exceptionally good donors; possibly also various alkaloids and many steroids. 2,4-DNP and thyroxine are good electron-acceptors. Chlorpromazine is a unique molecule electronically.

A brief chapter on ATP suggests why the P atom has a central role in energy processes. Adenine (in ATP) is a good donor and P a good receiver. A new theory, sans evidence, is proposed for muscle contraction on the basis of an electronic current. The final chapter, "The Living State," suggests that the energy necessary for the maintenance of the metastable state must come from DPNH or TPNH (as contrasted to energy from ATP for overt work, muscle contraction). Steroids may be the little "shuttles" accomplishing electron transfer in the molecular organization that is all-important.

Those who have read earlier Szent-Györgyi publications will be familiar with his flowing style that embraces highly philosophical speculations dotted with humor, spiced with suppositions and amusing improbabilities made plausible by a fresh approach through the tools of quantum physics, and the ample references in the footnotes. The thread holding together the wealth of published data cited, however, is the concept of the flow of energy through living systems via electrons and charge transfer.

Although the use of formulae and the meaning of the various constants are oversimplified, a knowledge of elementary quantum physics is pre-supposed. Biophysicists, cell pharmacologists and physiologists, physical pharmacists and others with a wide background in biology, biochemistry and quantum physics will find this book a delightful tome teeming with research ideas. It should be in every pharmacy library.

W. A. Teppert
Drake University

L. Ambard and S. Trautmann

Ultrafiltration

Springfield, Illinois: Charles C Thomas, 1960.
x + 67 pp., 27 figs., 19 tpls. \$4.50.

In this monograph, the authors present a concise discussion of their research dealing with ultrafiltration of electrolyte and non-

electrolyte solutions. In the interpretation of their results, the authors depart from some of the current concepts, e.g., present views on ionic activity and the cell-membrane, to introduce their own concepts. Fundamental to their argument is their view of ionic hydration and the volume change of hydrated ions, from which, by deduction, they offer an explanation of rather complicated results.

By considering the volume of the hydrated ionic species, ultrafiltration is conceived as a sieving process. Thus, the observation that the filterability of an electrolyte increases as the concentration in solution increases is explained on the basis that at higher concentrations the ionic species present become mutually dehydrating. It is also shown experimentally that divalent ions are more effective in dehydrating other ionic species than are monovalent ions. Since hydration of non-electrolytes is due only to van der Waals forces, they are incapable of mutual dehydration and consequently the filterability of non-electrolytes remains unaffected by concentration. Other factors shown to influence filterability are agitation of the filtering system, speed of filtration and temperature.

The variation in hydration of ions and constancy of hydration of nonelectrolytes may also explain other phenomena. It is observed that the rate of acid hydrolysis of sucrose increases linearly with the concentration of sucrose, but faster with increasing acid concentration. In another experiment the amount of substance transferred by diffusion is seen to increase according to a linear function of the time in the case of a non-electrolyte but to increase more rapidly in the case of an electrolyte. Both of these observations are explained on the basis of variation in ionic mobility, which is in turn related to the degree of hydration of the ion. Linear relationships are as expected for non-electrolytes since the extent of hydration is constant.

Ultrafiltration experiments are also presented for solutions containing electrolytes, non-electrolytes and albumin molecules. Hydrated albumin molecules attract the liquid surrounding them, and the intensity of attraction decreases with the distance. It is proposed that, if these solutions are ultrafiltered in successive portions, the first ultrafiltrate consist of the outermost layer of liquid, the second ultrafiltrate the next outermost layer, and so on. According to this concept ultrafiltration of these solutions reveals that, as the albumin molecule is approached, the liquid surrounding it becomes more alkaline and contains less neutral salts.

The concentration of nonelectrolyte in successive layers is constant. Biological implications drawn from these experiments are that it is unnecessary to postulate a cell membrane to explain the absence of neutral salts in the living cell and that the pH of the body fluids is not uniform but increases rapidly as the cell is approached, reaching thirteen for the liquid in contact with the cell.

A brief discussion of ultrafilter design and ultrafiltration technique is included as an additional section to this monograph. Currently available ultrafilters are compared for utility and efficiency. The authors also present their recommendations for improvements.

This monograph is well-written, the authors' line of reasoning being easily followed. For one interested in this field of research, rather interesting and provocative ideas are presented. Unfortunately, in attempting to lead the reader by simple deductive reasoning, the authors have completely omitted mention of elementary physical-chemical concepts which, if they had been included, would have delineated for the reader the areas of agreement and disagreement between the authors and currently accepted theory. Another weakness of the monograph is failure of the authors to present their experimental findings in a sufficiently detailed manner to permit the reader to evaluate critically the evidence upon which certain conclusions were reached. For instance, in the discussion of diffusion experiments, the reader can not determine whether the data presented referred only to steady state diffusion wherein Fick's first law applies or included the non-steady state phase of diffusion in which Fick's second law applies.

August P. Lemberger
University of Wisconsin

**Marguerite Rush Lerner and
Aaron Bunsen Lerner**

Dermatologic Medications. Second Edition
Chicago, Illinois: The Year Book Publishers,
Inc., 1960. 208 pp. \$6.00.

Dermatologic therapy has changed considerably within the last few years. The steroids have been introduced with their wide application in the field of dermatology. The number of antibiotics has increased. Effective fungicides have been developed. Even the advent of the tranquilizer has added to the treatment of many skin conditions.

This book is actually a small pharmacology on dermatologic agents. In most sections in-

dications for use of the drug, its dose, a brief action mechanism, and its formula are presented. Structures of the compounds within a specific pharmacological grouping are indicated to show the identical or similar nature of trade products. The effect of introducing different functional groups into the basic nucleus is also indicated.

Each of the twenty-eight sections deals with a different dermatologic condition. It is introduced by a general discussion of the condition followed by its treatment. A classification of the compounds specific for the condition is then presented. Included in the discussion of the products are many formulations for patented products conveying information which in many cases is not available in the trade literature. To aid the pharmacist in compounding, the vehicles for many products are presented. Typical sections covered are: acne preparations, antihistamines, cosmetics, fungicidal agents, light protective agents, ointment bases, psoriasis preparations, steroids, dressings, etc.

A valuable listing of references is indicated following the section discussions.

Essentially this publication is an inventory of the preparations most commonly used in dermatology today. Whereas the authors' presentation does lack detail of information of the condition and the products used for the condition, it does serve as a valuable reference text for pharmacy library purposes. More detailed information is available in other reference sources and trade literature. The scope of this publication is inadequate for specific class presentation but it does serve as a valuable adjunct to information already available.

Donald Y. Barker
University of the Pacific

M. J. Seven and L. A. Johnson, Editors
Metal-Binding in Medicine

Philadelphia, Pennsylvania: J. B. Lippincott Company, 1960. xiii + 400 pp. \$13.75.

The book is a collection of papers and panel discussions from a meeting held in May, 1959, in Philadelphia, where clinicians and research workers in the trace metal field came together to exchange ideas and survey the activities in this field. The Symposium was sponsored by the Hahnemann Medical College and involved the participation of some sixty specialists in the field of metal complexation.

The contributions by the various authors are divided in the book into six groups, beginning with the more basic concepts of

trace metal research, such as the relationship of chemical structure to metal-binding action and the role of metal ions in enzyme reactions; proceeding through reports of various pharmacological studies and clinical applications; and ending with several papers which explore the possible applications of metal-binding in various fields of therapy.

Each group of papers is followed by a lively discussion which is interesting and enlightening and makes the reader feel almost as though he were there during the discussions.

The editors of the book have attempted to make of this work a collection of authoritative and accurate information on the subject, and to this end they have had each chapter reviewed by two or more persons closely associated with trace metal work. References were checked for accuracy, some references were added by the editorial staff, and cross references between similar chapters were incorporated.

The book serves as a comprehensive collection of data and references on metal-binding in medicine. It should be a useful addition to any pharmacy library, both in teaching institutions and industry, and is a "must" for the medicinal and pharmaceutical research worker specializing in metal complexation. It should be useful as a reference source in graduate courses in medicinal chemistry and pharmacology.

Alfred N. Martin
Purdue University

XIXe Congrès des Sciences Pharmaceutiques
Zürich 1959. *Conférences et Communications*
Zürich: Schweizerischer Apotheker-Verein,
1960. xii + 607 pp., 45 Swiss Francs
(about \$11.00).

The reports which were given during the 1959 meeting of the Scientific Section of the Fédération Internationale Pharmaceutique (FIP) in Zürich have been published. This is the third time that the scientific presentations of the FIP congress have appeared in book form. (The publication of the proceedings of the 1958 meeting in Brussels has just been announced; the 1957 meeting in Leiden, Holland, resulted in the first printed volume). Seventy-four papers were read. Among them are the five papers of the symposium on stability: *Stability and Stabilization of Pharmaceutical Preparations*, and *Decomposition due to Chemical Changes*, both by S. A. Schou; *Physical Changes of Drugs* by M. Guillot; *Microbiological Decomposition of Drugs and their Prevention*

by K. Münzel; and *Decomposition of Medicaments due to Excipients and Containers and its Prevention* by T. D. Whittet.

The other sixty-nine papers were divided into four sections: (1) pharmacognosy, (2) pharmaceutical chemistry and biochemistry, (3) galenical pharmacy, and (4) biology and pharmacology. Many of the contributed papers are important, but space is insufficient here to mention individual ones. Collectively they are an impressive cross-section of scientific pharmacy. They show better than any description the depth and breadth of pharmaceutical research in the world. Most of the contributions are from Europe with a sprinkling from Japan, Canada, and the United States (one paper). The value of the papers is enhanced by including the discussions which followed many of the presentations. One-third of the papers are in English, the others in French or German.

The majority of the papers have been reprinted in the *Pharmaceutica Acta Helveticae* and in *Schweizerische Apotheker-Zeitung* between August, 1959, and December, 1960. The paper-bound volume should be in every library. It merits thorough study by researchers and educators in pharmacy.

T. Werner Schwarz
University of California

Kurt Münzel, Jakob Büchi, Otto-Erich Schultz
Galenisches Praktikum
Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1959. xxxii + 1,082 pp., 281 figs., 137 tpls. DM 142 (about \$35.00).

The subtitle of the book is "A textbook and exercises (Übungen) in galenical pharmacy (drug forms and pharmaceutical technology), containing numerous problems, figures, graphic descriptions, tables and directions." Although developed from a voluminous collection of practical exercises, which were given to students of the Pharmaceutical Institute of the Federal Institute of Technology in Zürich, the book is not just a laboratory manual. It is, by all appearances, a very solid textbook enriched with 701 exercises and projects, many of them advanced.

The authors aimed at writing a book in which the theoretical foundation of pharmaceutical practice was to be integrated with representative and significant experiment. This combination, for which every pharmacy instructor strives in his teaching, has been admirably accomplished. The table of contents still reads like a laboratory manual. The chapters are called "Exercises." The development of the book from a collection of lab-

oratory exercises is evident throughout. Most of the book consists of experiments with accompanying comments. But each chapter and each section within each chapter discuss the fundamentals of the subject prior to the experiments, which are called "Aufgaben." The theoretical and experimental portions are substantiated with many references to literature. Often an experiment is patterned after work published in the literature. American literature is extensively quoted and the literature sources from European, American, and a few other publications are one of the attractive features of the book.

The book is not based on any particular pharmacopeia. However, when examples from official compendia were taken, the Swiss and German pharmacopeias served, understandably, as sources more often than others. Yet the many examples which this reviewer has read are of a general nature and are equally fruitful in the instruction of pharmacists in the United States.

The emphasis of the book is on the formulation aspects of drug products. The properties of basic ingredients, the effects of their combinations, interactions with each other and with drugs, suitability of products for administration: these are the concepts with which this book deals mainly. They are basic galenical problems. The latest pharmaceutical aids from both sides of the Atlantic are discussed and introduced in experiments.

The book is directed to the student who in the German and Swiss system of pharmaceutical education has finished his preceptorship and is familiar with the various drug forms and their preparation. The absence of a special course in physical chemistry or physical pharmacy in the European curricula necessitates the incorporation of experiments in the book which illustrate basic physicochemical relationships of importance to pharmacy. Most of the experiments, however, go beyond the routine character. To give a few examples, chosen at random: rheological characterization of a gel; chemical incompatibilities of a gel as determined by viscosity; effect of electrolytes on gel or emulsion stability; comparison of suspension stabilizers in calamine lotion; the effect of multiple homogenization on the degree of emulsification; preparation of transparent emulsions; effect of surfactants on water absorption of petrolatum.

The introductory portions of the chapters, from which the above examples were chosen, are excellently presented. The sections dealing with colloidal subjects have no parallel in American textbooks. The chapters dealing

with colloidal aspects in general and emulsions, suspensions and gels cover 240 pages. The equally thorough and diversified chapter on ointments extends over 113 pages. The other two-thirds of the book deals with packing materials (forty-eight pp.), measurements of dosage forms (thirty pp.), powders, granulation, tableting and coating (113 pp.), pills and troches (eighteen pp.), solutions, solubility and solubilization (eighty pp.), extraction processes and products (eighty-four pp.), deionization of water, sterilization, aseptic procedures and injection products (122 pp.), suppositories (forty-six pp.), disintegration tests (twenty-one pp.), flavoring (eleven pp.), incompatibilities (twenty-nine pp.), and stabilization and preservation (ninety pp.).

The book is not directly comparable to any of our textbooks. Content-wise, it covers the topics which correspond to the course in the fundamentals of pharmacy. It does not deal with prescription practice, since Swiss and German pharmacists learn this during their preceptorship, which precedes the academic period of professional instruction, for which the book is written. The student, after having mastered the practical aspects of dispensing, is more responsive to the concepts and correlations which are unfolded in this book. The authors' approach is correspondingly mature, and the book offers a rich source of stimulating and challenging experiments. Many experiments are only sketched rather than described in detail; thus the student is forced to consult the cited papers before he can begin his work. This association of experimental problems and research publications makes the book a unique teaching tool. The approach to, and the choice of problems, recommend this book to the advanced student and for an advanced course such as pharmaceutical formulation as it is offered, e.g., at the University of California in the last year of the Pharm.D. program. Regardless of the level of the course one teaches, every instructor of pharmacy or physical chemistry in a pharmacy school should use the book along with its American counterparts. It represents not so much competition for our American textbooks but a very desirable, often original and highly recommended complement.

The lion's share of the work was that of Münzel, who was coordinating editor and wrote most of the chapters. The book has an editorial uniformity, which is all too often missing in our corresponding textbooks. Münzel was for many years professor of galenical pharmacy at the Eidgenössische Technische Hochschule (Federal Institute of

Technology) in Zürich before becoming head of pharmaceutical research at Hoffman-La Roche in Basel. Büchi was Münzel's predecessor as professor of galenical pharmacy until he became professor of pharmaceutical chemistry and director of the Pharmaceutical Institute at the Eidgenössische Technische Hochschule. Schultz was head of the galenical pharmacy division in the University at Tübingen (Germany) until he, like Büchi, became professor of pharmaceutical chemistry and director of the pharmaceutical Institute at the University in Kiel (Germany). All three men have been closely associated with galenical pharmacy for more than three decades.

The format of the book is excellent. The print with its two sizes (the smaller one for experimental directions) and the arrangement of tables, figures and formulas are clear and easy on the eyes; the paper is strong and semigloss, and the reproductions are well done. The book appears to have been painstakingly prepared. For a first edition it is remarkably free of errors.

It would be very desirable to have an English edition of this book available. It would then most likely result in a widespread distribution among faculty and students, as well as practicing and industrial pharmacists; the two latter groups will appreciate the many references to small-scale equipment, new formulation aids and the thorough section on tableting. I hope, however, if and when such a translation appears, that its price will be more in line with the prices of our textbooks.

T. Werner Schwarz
University of California

Joseph S. Annino

Clinical Chemistry: Principles and Procedures.
Second Edition
Boston: Little, Brown and Company, 1960.
xx + 348 pp., 17 illus., 11 tbls., 2 charts.
\$8.00.

The growing importance of clinical chemistry to the diagnostic aspects of medical practice is generally recognized. Therefore, any reliable literary guide to principles and procedures for the quantitative estimation of various chemical entities in biological systems is a welcomed contribution.

The first edition (1956) of this book received clearly favorable reviews. These receptions are concurred in by this reviewer and were based upon appraisals that the author had reasonably accomplished his objective to provide basic textual material (as to available and recommended methods of

determination, calculations, standardizations, principles, reactions, precautions, physiological significances, and literature references) of practical use to clinical technicians having limited fundamental chemical training.

The author's and others' experiences with the first edition led to the following revisions of the text in the second: additional methods for amylase and albumin; slight revision of some chapters, and complete revision of others; addition of new chapters—on Protein-Bound Iodine, Serum Iron, Various Other Tests. The last-mentioned chapter is, however, a very brief treatment of certain biochemicals (vitamins A and C, hormones, fats and serotonin), which, though important, are determined extraordinarily compared to those biochemicals for which specific procedures are detailed in the preceding chapters of the text.

Because of its sound biological basis, the book is a valuable pharmacy library reference volume. As a prescribed text, its scope and organization place it definitely on a tangent to the usual laboratory syllabus of fundamental physiological chemistry.

Fred T. Semeniuk
University of North Carolina

M. E. Florey, Editor

Antibiotic and Sulphonamide Treatment
London: Oxford University Press, 1959.
ix + 150 pp., 2 tbls. \$2.75.

The first quarter of the book treats the subject matter under two headings, (1) antibiotics and (2) sulphonamides of clinical importance. Each of the drugs listed is considered from the following standpoints: antibacterial action on various microorganisms; administration; absorption and excretion; toxicity; and indications for use in the treatment of disease.

A brief explanation of organism sensitivity, organism resistance, and antibiotic antagonism and synergism brings into focus the problems to be considered in the choice of an antibacterial agent or agents for the treatment of disease. Effective combinations of antibacterial drugs have been summarized in a table with page references to the section of the book where the individual diseases are considered.

The main portion of the book is devoted to a number of common diseases, each considered individually. Twenty specific infections are taken up in alphabetical sequence, from actinomycosis to yaws. The remaining one hundred or more are grouped under the following headings: respiratory diseases;

cardiovascular diseases; diseases of the nervous system; diseases of the abdomen; genitourinary diseases; obstetrical and gynecological diseases; venereal diseases; diseases of the mouth, ear, nose, and throat; diseases of the eye; and diseases of the soft tissue and bone.

Written primarily as a quick guide for doctors and others in the health profession, it has been kept as brief as possible, with no bibliography or acknowledgment of source materials. Dosages are based on the *British Pharmacopoeia*.

This book is another in the British pocket-sized books on scientific subjects which have proved so popular. It is well-written and contains a great deal of information in a small space.

Harold E. Bailey
Wayne State University

Marguerite Grumme

Let's Plan Programs

Let's Pamper Our Group Public Relations

Let's Install Correctly

St. Louis, Missouri: Marguerite Grumme, 1959. Three separate folders, 16 pp. each. \$0.50 each, two for \$0.75, three for \$1.00 (paper).

Titles and themes of these folders are synonymous. The content concerns duties (other than the conducting of business meetings) for which officers of voluntary organizations are responsible.

Purpose and procedure in program planning, types and timing of meetings, possible sources of program aids and talent, and courtesies and essentials are clearly set forth in *Let's Plan Programs*. Much of the content is familiar to persons who have served associates with such efficiency and good will as to be awarded officer status. Even so, this folder can be a minute reminder for preview and re-check of general and of specific arrangements.

Maintaining rapport among members within a group and with other organizations, and attaining deserved publicity via the various news media is treated in *Let's Pamper Our Group Public Relations*. Cautions and suggestions contained herein are worthy of everyone's consideration. Occasional re-reading of the concisely listed recommendations could enhance the quality of service rendered by a group to its larger community. This folder should be particularly helpful to publicity chairmen.

Every long-established organization has its formal installation ceremony, yet each local chapter may find acceptable variations or

additions to make that ceremony more impressive in *Let's Install Correctly*. General procedure, a seating chart, presentation of the gavel or record books, and the significance of insignia used in the ritual are carefully discussed.

From each of these pocket-sized folders material can be found easily, read quickly, and understood immediately. Aside from the usage of the vague "etc." the clarity and compactness of expression is commendable. Coverage is excellent. Dorothy Bond's illustrations provide eye appeal and highlight important points of the text. Miss Grumme's purpose is not to elaborate, but to simplify. The purpose is achieved.

These folders are recommended for officers and advisers of voluntary organizations, not to supplant what is already established, but to remind and to supplement.

Hattie Irene Jones
Drake University

E. L. Bauer

A Statistical Manual for Chemists

New York: Academic Press, 1960.

x + 156 pp., 3 figs., 68 tbls. \$4.75.

The conviction that few chemists make use of the valuable tools of statistics caused the author to collect and lay down in book form those statistical methods most applicable to chemical analysis and experimentation. His intent was to present a simplified and understandable approach which would provide the unfamiliar with a working knowledge of the subject. Many short-cut methods, plus an appendix of twelve tables of predetermined factors and values, are given to encourage the use of statistical techniques. To generate a sense of familiarity, the author selected as examples some chemical problems known to all chemists. Immediately following the preface is a glossary of symbols and definitions.

The first chapters examine such fundamentals as experimental error, normal distribution, the 't' distribution, accuracy and precision, the average, the range and confidence limits. Average deviation, variance and standard deviation, and range are discussed as ways of evaluating precision. Since chemists are concerned usually with samples of fewer than thirty items, the author prescribes techniques based on the theory of small samples. The use of experimental designs which can provide statistical information is advocated to increase the objectivity of the scientific method. This is followed by an explanation of the analysis of variance, a

tool for obtaining information from statistically designed experiments.

Chapter 4 is devoted to methods for handling the comparison of two averages, the comparison of an average with a standard and paired comparisons. Chapter 5 is concerned with methods for the comparison of more than two averages as obtained in single block design, double classification, Latin square design or factorial experiments. Next, regression analysis to study the effects of one variable on another is described, especially in connection with colorimetric analysis.

An entire chapter is devoted to the theory of sampling and its bearing on the control of purity and quality. Chapter 8, the last, is devoted to the problem of controlling routine analyses. The use of existing data to calculate experimental error and the use of the control chart are explained in detail. Specific problems are cited for the control of precision of optical rotation measurements, precision of colorimetric analysis, sensitivity of analytical methods, sample size and compliance with specifications. Each chapter is followed by several references, some of which are not cited in the text.

The author's convictions about chemists and statistics are applicable equally to practitioners in the pharmaceutical sciences, and the manual is equally suited to those in the pharmaceutical disciplines. This book should be given special consideration by teachers in the areas of pharmaceutical analysis and quality control.

R. O. Bachmann
University of Arkansas

G. J. Sarwer-Foner, Editor

The Dynamics of Psychiatric Drug Therapy
Springfield, Illinois: Charles C Thomas,
1960. xxviii + 624 pp., 15 figs., 11 tbs.
\$16.00.

The rapid growth of knowledge in the many disciplines concerned with neuroleptic drugs has artificially created much confusion. This is due in part to the relative unsophistication of the investigators in both the jargon and basic theories associated with disciplines foreign to them. Not infrequently this lack of communication among the investigators has caused needless misunderstandings, accusations, and rebuttals. Thus, instead of working together towards a common goal in the light of the greatest possible mutual understanding, much precious energy is dissipated unproductively. The need for an interdisciplinary conference to bring together the many viewpoints and approaches available

for an understanding of neuroleptic drug therapy was therefore clearly indicated. This book is a record of such a conference.

The book is divided into seven parts, which are: (1) The Physiological Effects of the Neuroleptic Drugs and Their Psychological Implications; (2) The Effects of the Neuroleptic Drugs on Ego Defences and Ego Structure; (3) The Influence of the Milieu and the Sociological Determinants of Behavior; (4) Transference and Countertransference Problems in Relationship to Drugs; (5) General Discussion. Combined Discussion of all Participants; (6) Therapeutic Aspects of the New Drugs; (7) Conclusions. Summations of the Individual Committee Reports and Discussions. Each part except parts five and seven consists of a balanced committee-unit in which are found qualified selected experts. Informative and stimulating papers pertaining to the various headings are presented. Each report is followed by a discussion period which often serves to reflect the areas of agreement and disagreement among the various disciplines represented. Another important item with regard to each of these sections is the great number of valuable references found listed after each paper. Parts five and seven as indicated by their titles are self-explanatory. The summaries and the conclusions of the various committees are excellent.

This unique book is recommended for all those who are interested in the dynamics of psychiatric drug therapy. It will afford the opportunity for a better understanding of the many complex and numerous variables associated with this type of drug therapy. Furthermore, it will poignantly illustrate that many of the misunderstandings found among the various disciplines are frequently nothing more than a question of semantics or jargon. The book should especially be read by psychopharmacologists and psychiatrists. It is also a valuable reference work.

Mario D. G. Aceto
University of Pittsburgh

**Frances K. Oldham, F. E. Kelsey and
E. M. K. Geiling**

Essentials of Pharmacology. Fourth Edition
Philadelphia: J. B. Lippincott Company, 1960.
xiv + 418 pp., 13 tbs. \$7.75.

According to the authors' preface, "The fourth edition of this book is designed, as were the preceding three editions, to give the student a broad and up-to-date survey of Pharmacology and to prepare him for the evaluation of future advances in the field." Considering the difficulties facing any author

of a current text on pharmacology, these objectives have been reasonably well accomplished.

Essentials of Pharmacology represents what is essentially a well-written but concise treatise covering a broad subject. However, as a text of "essentials," the designed omission of much detail is accomplished only at a sacrifice of general utility and, occasionally, of clarity. Even as an introductory text, considerable supplementation would be needed by most students of pharmacology.

The organization of the subject matter follows the same outline as that used in the previous (1955) edition but with the addition of new material. Thirty of the thirty-four chapters are devoted to drugs; four to introductory considerations. A new chapter (Chap. 10) on "Hallucinogens and Tranquilizers" has been added and placed between the chapters on "Morphine and Allied Drugs" and "Central Nervous System Stimulants." There may be a variance in personal opinion on the desirability of this location. Discussed in the chapter are 5-hydroxytryptamine, mescaline, lysergic acid diethylamide, reserpine, chlorpromazine, meprobamate and azacyclonol with brief references to other tranquilizing agents. Other new features of the fourth edition include the addition of a section on monoamine oxidase inhibitors to the chapter on "Central Nervous System Stimulants" and a section on oral hypoglycemic agents following the discussion of insulin in the chapter on "Endocrines." Each of the chapters on drugs concludes with a brief bibliography and a list of the more important preparations together with their usual doses. Official drugs are listed in accordance with the *USP XV* and *NF X* although recognition is made, in an introductory chapter, of the fact that the current editions are the *USP XVI* and *NF XI*. This may prove somewhat misleading to students.

Tables and figures are used sparingly, but an excellent table showing the properties of the inhalation anesthetics is incorporated into the chapter on "General Anesthesia." Chemical formulae are used liberally and to good advantage. In many instances, differences in chemical structures of related agents are identified by bold type, which provides for ready recognition of these differences.

In general, emphasis has been placed on drugs of current utility, but some obsolescent material is still retained. There are some instances of a disparity between an agent's relative importance and the attention devoted to it in the text. It seems incongruous, for example, that the sulfonmethanes are

identified somewhat prominently with the hypnotics and sedatives, whereas ethyl alcohol is barely mentioned with the central depressants. Certainly, alcohol deserves some consideration if only for the implications of its social use and attendant medico-legal aspects.

Essentials of Pharmacology will serve a useful purpose for those instructors who wish in a text a broad but concise treatment of the subject, but it will not fulfill the needs of those who demand a more detailed and comprehensive account.

Guilford C. Gross
South Dakota State College

A. Hamilton Chute and Esther J. W. Hall

The Pharmacist in Retail Distribution

Austin, Texas: Hemphill Publishing Company, 1960. vi + 384 pp., 55 illus., 24 tbls., 8 layouts and plans. \$9.95.

Three revisions of this book in seven years and widespread adoption as a text for courses in pharmacy management dramatically emphasize the need that has existed for a book that could present the practical as well as the theoretical aspects of business. The principles and policies of retailing and management set forth herein are essential for the pharmacist to cope with the increasingly competitive situation.

No drastic revision was attempted in this Third Edition; however, the authors have made some additions and deletions and have rearranged some chapters so as to present a more logical sequence of the entire picture of retail operations. In order to stimulate further readings, problems and questions have been appended to each chapter that necessitate the use of library references or information acquired in other courses. Factual data have been updated, and each chapter has been supplemented by photographs depicting the modernizing trends of the last several years.

The book is conveniently divided into five specific sections. The first, the marketing function of pharmacy, justifies the position of the pharmacist and his relationship to other essential but less professional associates. The second, planning and organization of a retail establishment, includes location, layout, risk and insurance, personnel, financing and others. The third, merchandising and pricing, embraces the profit motive, covers buying and sources of supply, inventory control and the challenge of competitive pricing. The fourth, sales promotions, explains the purpose, methods, cost and effects of advertising, specific promotions and per-

sonal selling. The fifth, cost control and public relations, emphasizes the use of credit, budgets and other policies as well as the effects of good professional relations.

The book, definitely intended as a text to fulfill the recommendations of the American Council on Pharmaceutical Education regarding pharmacy administration, is the most modern and thorough in the field. However, the wide scope of the book indicates that it is not meant to be a complete text for all phases of business. Superficial coverage of certain important subjects points to the fact that it is meant to be supplemented by such other specialized courses as marketing, economics, accounting, jurisprudence, personnel and public relations. The authors have done an excellent job of filtering the essential and desirable business policies from the myriad of trade journals, government publications, standard business texts, company reports and digests and innumerable private publications, and have tactfully adapted them to pharmacy without minimizing the professional aspect. As well as a text, the book should serve as a useful reference for the pharmacist currently engaged in retail practice.

M. B. Hoevel

University of Cincinnati

Edmund W. Sinnott

Plant Morphogenesis

New York: McGraw-Hill Book Company, Inc., 1960. x + 550 pp., 216 figs., 3 tpls. \$12.50.

The author states that his efforts are the first made to coordinate in one reference-textbook the knowledge of plant morphology, plant physiology, genetics, and the chemical and physical sciences to plant morphogenesis, the study of the origin of plant form. In the reviewer's opinion, the author's success in his objectives is primarily due to the orderliness of the development of his thesis and to the preciseness of his prose.

The subject matter of this book is divided into three principal parts: growth (forty-four pp.); the phenomena of morphogenesis (208 pp.); and morphogenetic factors (146 pp.). The subject of growth is discussed in general, on a cellular level, and as meristematic tissues. Correlation, polarity, symmetry, differentiation, regeneration, tissue mixtures, and abnormal growth are considered in the second part; and in the third part the morphogenetic factors considered are light, water, temperature, physical forces, chemicals, growth substances, and genetics. The concluding chapter of the third section is entitled "Organization" and summarizes the fac-

tors involved in giving a plant an organized and duplicating form.

Following the chapter on organization, there is a bibliography of approximately 1,500 references that were referred to throughout the book. Although this book was published in 1960, it was observed that there were only two references cited from the year 1959, and fewer than two dozen cited from the year 1958 in the bibliography. Also, on page 375, the 1959 edition of Audus' book entitled *Plant Growth Substances* might have been referred to in place of the 1953 edition; and probably the most comprehensive review on plant tissue culture, R. J. Gaultheret's *La Culture Des Tissus Vegetaux* (Paris, 1959), should have been included in the list of review articles. The author's practice of cross-indexing by page number the location of additional information related to the subject being discussed is highly commendable. Both a name index and a subject index appear at the back of the book. The printing, the reproduction of the large number of black and white and two-tone illustrations, and the binding are of the high quality normally expected and obtained from the McGraw-Hill publishers.

The author acknowledges that some readers may be disappointed in the brevity of some of the topics discussed, but the primary purpose of this book is to associate the fundamental knowledge, and not to exhaust the available knowledge, of various scientific disciplines as applied to plant morphogenesis. The resultant book is in itself a major contribution and could only evolve from an individual with the broad background and experience of the author. This book should profit most the reader who has a knowledge of the various botanical disciplines, but who lacks an understanding of their interrelationships to the dynamic creation of a plant's form. It would seem desirable for every pharmacognosist to be able to visualize the factors involved in the development of a plant or its form, regardless of his particular specialty of research. The value of the book may best be summarized by the following statement of the author, "We must all be morphologists before we can be biologists of any other sort."

The book is highly recommended to be owned, read, and consulted by pharmacognosists and their advanced graduate students. The book should be on the library shelf of every school or college of pharmacy offering a graduate program in pharmacognosy.

E. John Staba

University of Nebraska

Edwin B. Steen

Dictionary of Abbreviations in Medicine and the Related Sciences
Philadelphia, Pennsylvania: F. A. Davis
Company, 1960. viii + 94 pp. \$2.50.

This small (10 x 13.5 cm.) cloth-bound book is a ready reference for abbreviations encountered by pharmacists, physicians, nurses, medical librarians, students, and others involved in the medical sciences. In spite of the small size of the page, the type is easily read, and each abbreviation with its single or multiple meaning is set apart from the others by sufficient white space to avoid confusion.

The specialized abbreviations included are the uncommon as well as the common ones, and there are listed certain abbreviations of a general nature such as those designating various societies, organizations, governmental agencies, and a limited number of publications.

The author has included a short list of useful source books containing medical abbreviations, general abbreviations, abbreviations of journals and other publications, and Latin abbreviations. There is also a chart of symbols commonly used in the professions served by the book.

Complete accuracy in such a book would be remarkable, indeed, so that the meaning given for **RLQ: right upper quadrant** (of abdomen), is understandable and forgivable. There may be other instances of inaccuracy, but this is the only one noted by the reviewer.

C. Boyd Granberg
Drake University

Arthur Osol and Robertson Pratt

The Dispensary of the United States of America: New Drug Developments Volume
Philadelphia: J. B. Lippincott Company, 1960.
vi + 240 pp. \$9.00.

The *New Drug Developments Volume* provides information about the new therapeutic substances which have postdated the Twenty-fifth Edition of the *United States Dispensary*. It also elaborates on new information about certain drugs already described in the main volume of the *USD 25*. These drugs are chloramphenicol, chlortetracycline, cycloserine, dihydrostreptomycin, erythromycin, gramicidin, meprobamate, neomycin, oxytetracycline, penicillin, promethazine, puromycin, reserpine, streptomycin, and tetracycline.

A third purpose of this volume is to extend the general survey articles, featured in Part Two of the *USD 25*, so as to include

the following categories: antibiotics, anti-tumor active antibiotics, hypoglycemic agents, psychotherapeutic and psychotomimetic drugs, and saluretic agents.

The editors have extended the encyclopedic usefulness of the *USD 25*, over the interim of five years since the last revision of the *USD*, with the adoption of 209 completely new monographs.

The *New Drug Developments Volume* continues to concentrate on information about actions, uses, doses and side effects of drugs. Accordingly, pharmacological and clinical data are accented at the expense of certain specific chemical data such as synthesis, standards and tests.

This reference book is recommended as a valuable and authoritative reference source to the members of the pharmaceutical and medical professions.

Frederick P. Siegel
University of Illinois

Joseph B. Sprowls, Jr., Editor

American Pharmacy. Fifth Edition
Philadelphia: J. B. Lippincott Company, 1960.
xxiv + 493 pp., 194 figs., 35 tbs. \$10.75.

The object of this book, as expressed by the editor, is to provide a textbook which is suitable for use by students beginning their professional training in pharmacy and, furthermore, one which is alive with the most recent scientific and technical advances in the field. I believe that the editor has, with the assistance of his group of twenty extremely well-qualified contributors, succeeded in attaining the objectives set forth.

This is the Fifth Edition of *American Pharmacy* which has found wide acceptance as a textbook for the study of pharmaceutical principles, processes and preparations. It follows, in general, the same format as previous editions. Part I deals with Fundamental Principles and Processes, and Part II deals with Pharmaceutical Preparations.

Part I (pp. 1-181) includes a discussion of metrology, specific gravity and specific volume, heat and refrigeration, purification and clarification, physical and chemical subdivisions of drugs, solutions, colloids, emulsions and suspensions, and extraction. Certain topics discussed in Part I, e.g., specific gravity and specific volume, heat and refrigeration, purification and clarifications, seem redundant in light of the fact that in the minimum five-year curriculum adopted by the colleges of pharmacy, students will have had an adequate background in physics and chemistry prior to their course in principles of pharmacy.

Part II (pp. 175-472) is devoted to pharmaceutical preparations. These include a discussion of the waters, syrups and juices, solutions (liquores), infusions and decoctions, mucilages, creams, glycerogelatin, glycerites, collodions, mixtures, suspensions, magmas, gels, jellies, emulsions, soaps, suppositories, spirits and elixirs, vinegars, tinctures, fluid-extracts, fluidglycerates, extracts, resins and oleoresins, powders, capsules, masses, pills, troches, tablets, and effervescent salts. The inclusion of a section on radioactive pharmaceuticals for the first time in the previous edition has been continued and provides a concise, informative discussion of radioisotopes useful in medicine and pharmacy. There has been added an excellent new section on parenteral products which deals with the preparation of these products and the special techniques applicable for the official injections and sterile suspensions. Particularly to be commended, also, is the inclusion of new concepts and developments in the chapters headed suppositories, mixtures and suspensions, ointments, and emulsions.

The text of *American Pharmacy* has been extensively revised and reset to agree with the Sixteenth Revision of the *United States Pharmacopeia*, the Eleventh Edition of the *National Formulary*, and the latest edition of *New and Nonofficial Drugs*. There are ample illustrations and figures which serve to familiarize the student with equipment and techniques now in current usage. The classification of medicated elixirs according to their therapeutic activity is particularly noteworthy. It would seem desirable to use this format for the other classes of pharmaceutical preparations as well.

It is the opinion of the reviewer that *American Pharmacy* is an excellent text and will continue to serve as a textbook of choice for the beginning courses in pharmacy. Instructors who are using previous editions will well appreciate the updating in the current edition. Instructors who have not used *American Pharmacy* might well consider its adoption.

Stanley V. Susina
University of Illinois

A. V. Shubnikov

Principles of Optical Crystallography.

Translated from Russian

New York: Consultants Bureau Enterprises, Inc., 1960. vi + 186 pp., 165 figs., 9 tpls. \$9.50.

The author is one of the leading authorities on crystallography in the USSR. His book

parallels the course on optical crystallography given at Moscow State University. Shubnikov's present text is an up-to-date revision of a previous edition. It is concerned with the theory of optical crystallography and its relationship to the symmetrical properties of crystals.

This book should be of particular value to American scientists since the mechanical and optical properties of crystals are probably under as intensive and thorough a study in the USSR as anywhere in the world today.

The general excellence of this book is due primarily to its organization, its clarity, and its coverage of basic subject matter. The text is profusely illustrated. The illustrations emphasize well the three-dimensional relationships between optical and crystal directions. Each branch of the subject matter is developed in a logical progression, and not until all of the basic optical concepts of that branch are thoroughly covered does the author discuss in detail their relationship to crystal symmetry.

The material in this book compares favorably with that presented in other books on the subject matter. However, absent from the subject matter are isolated details and even branches of the subject such as reflection of light from crystal plates and changes in optical properties of crystals under action of external effects. This book unfortunately does not include descriptions of apparatus and experimental methods.

The book was prepared primarily for use in college courses in optical crystallography or optical mineralogy, but it should serve as a valuable reference for the pharmaceutical chemist, pharmacognosist, or others in disciplines in the field of pharmacy interested in the identification of organic or inorganic solids.

Leo J. Schermeister
North Dakota State University

David T. Smith and Norman F. Conant,
et. al., Editors

Zinsser Microbiology. Twelfth Edition

New York: Appleton-Century-Crofts, Inc., 1960. xiv + 1,026 pp., 552 illus. \$13.00.

In the latest edition, the title of Zinsser's well-known textbook *Bacteriology* has been changed to *Microbiology*. The change is in keeping with the gradual expansion of bacteriology to include mycology and parasitology, in the belief that all infectious diseases should be taught as a unit. Zinsser, therefore, for the first time, provides the student with a medical microbiology textbook

that has four chapters devoted to medical parasitology, as follows: Introduction to Medical Parasitology, Protozoa and Protozoan Infections, Helminths and Helminthic Infections, and Arthropods. These chapters are in addition to the usual bacterial, viral and fungal infections material. The author of the new section of parasitology is John E. Larsh, Jr., professor of parasitology at Duke University. Even though this section is limited to seventy-two pages and thirty-nine plates (three of which appear in color), the material is basic and given in sufficient detail to be of great help to the student. The subject matter of the illustrations is familiar to users of Belding's classic *Textbook of Clinical Parasitology* but (with the exception of the three color plates) has been printed in reverse—white on black instead of black on white.

In keeping with the tremendous accumulation of pertinent scientific data, the section on virology has been expanded to encompass material on Asian influenza, hemadsorption and the Cocksackie viruses.

For future editions the editors might do well to consider two shortcomings of an otherwise outstanding text. In the first place, a more careful editing job would effect a reduction and/or clarification on numerous points cited that are of primary concern to the research worker rather than to the student being introduced to the microorganism for the first time. Inclusion of this mass of minutiae tends to result in confusion and uncertainty unless it is in some way separated from the body of the basic discussion. The second shortcoming is to be found in the frustratingly incomplete listing of items in the index.

The basic approach of this text includes not only the biological characteristics of the microorganisms but also the reactions of the living tissues to these microorganisms and their products. This treatment makes the book of value to the microbiologist, to the students of public health and pharmacy, and to the worker primarily concerned with the clinical aspects of the subject.

Lucy W. Clausen
Columbia University College of Pharmacy

Elsie E. Krug

Pharmacology in Nursing. Eighth Edition
St. Louis: The C. V. Mosby Company, 1960.
805 pp., 49 figs., 15 tpls., 8 colored plates.
\$6.00.

This is an enlarged and modernized revision of a book that has been considered one of the classic texts in nursing education over

the past twenty-four years. It has now been revised to be current with the 16th (1960) revision of the *USP* and the 11th (1960) *NF* as well as the 1958 *British Pharmacopeia*. Like earlier editions the bulk of the book consists of brief discussions of the modern medicinal agents with emphasis on pharmacotherapeutics. The drugs are grouped roughly according to their major site of action. The special sections of the book which are devoted to pharmaceutical calculations, administration of drugs, history and drug legislation have been revised and expanded.

Unlike earlier editions the current text contains chemical structures of most of the drugs and a modest attempt has been made to correlate the structures with biological activity. This, along with the greater detail in the pharmacological and therapeutic discussions, definitely indicates that the book is written on a higher level than previous editions. The author justifies this in the preface, wherein she states that the book is designed for use at all levels of the nursing experience.

In general the text of the book is well-written and is essentially accurate though limited in pharmacodynamics. The overall arrangement is good in spite of the illogical placement of the chapter on antibiotics. The text will undoubtedly have great appeal to any professional pharmacologist teaching nursing students. The book is not designed for and is too elementary to be used as a text for pharmacy or medicine. However, it could be of value as a library reference for lower class students who have not yet reached the level of the formal pharmacology course.

Donald B. Meyers
Butler University

Brinton M. Miller, Editor

Developments in Industrial Microbiology,
Volume I

New York: Plenum Press, 1960.

ix + 267 pp., 57 figs., 29 tpls. \$7.50.

This book, like other proceedings, is a timely publication, especially because of the recent interest in antitumor antibiotics, halucinogenic fungi and variations in microorganisms. The nine topics and contributed papers, presented as a symposium, clearly indicate the need for publication of future proceedings.

This book should be of great interest to all members of the AACP and more so to those teaching biological sciences. It aims to bring out and demonstrate the importance of the developments in industrial microbiology

and in so doing contributes to the broad spectrum of microbiologic research in industry. The emphasis on research in the various fields has introduced a great need for proper recruitment in specific areas of industrial microbiology.

The colleges of pharmacy can play a major role in the three selections as discussed by Dr. H. B. Woodruff in his paper.

The wide fields of interest presented by outstanding individuals include the following topics: Space Age Microbiology, Self-Sanitizing Agents for Fabrics, Antitumor Antibiotics, Hallucinogenic Fungi, Deterioration of Proteins, Deterioration of Wood by Lower Fungi, Fungal Metabolism and Fungicides, Variations in Microorganisms, plus contributed papers on staphylococcus, griseofulvin, bacteria in oil field waters and decomposition of cellulose of cotton fibers.

These proceedings are adequately documented with specific up-to-date references and thus add to the standard texts in microbiology.

Brinton Miller is to be congratulated for editing this wonderful and indispensable Volume I. It is excellently produced and printed on high quality paper, and legible type is used throughout. I would recommend its use as an addition to a pharmacy library as well as a reference work for specific topics.

Michael Iannarone
Rutgers, the State University

E. N. Willmer

Cytology and Evolution

New York: Academic Press, Inc., 1960.
x + 430 pp., 173 figs., 12 tbs. \$10.00.

Dr. Willmer provides a very interesting approach to the question of evolution. His versatile background, including training and experience in zoology, histology, physiology, and tissue culture, provides a unique approach to evolution on a cytological level resulting in this "unusual book," as the author describes it.

Dr. Willmer introduces this problem with a brief review of tissue culture techniques and the behavior of cells in tissue culture. This is followed by a description of the basic cell types obtained in tissue culture. Three basic cell types are described: mechanocytes, epitheliocytes, and amoebocytes. These are classified on the basis of structure, association, movement, and various physiological and biochemical activities. The author emphasizes that tissues placed in culture appear to "revert" to the basic cell types before organization of the cells into the respective

tissue types. The author then proceeds to relate these cell types to the differentiation of the blastomeres in early embryology and describes particularly the early embryology of sponges, representing primitive metazoans. A striking similarity of the epitheliocytes, mechanocytes, and amoebocytes with the choanocytes, skeletal cells, and wandering cells, respectively, is described.

Dr. Willmer then discusses the evolution of metazoans from unicellular organisms and the problems associated with colony formation. Particular reference is made to protozoans exhibiting important variations in activity such as amoeboid-flagellate transformations. This is compared with variations in cell types of the metazoans. Pointing specifically to the reversible amoeboid-flagellate activity of *Naegleria*, the author discusses the relationship of such responses to differences in the environment. This provides a basis for the early differentiation of cell types in embryology. For example, the ionic differences between the blastocoel and external medium "stimulates" the differentiation of cells at these respective regions. Further differentiation of cell layers is due to a gradient of the environment of the cells. From this foundation the author presents a genealogical tree of the cell families in a vertebrate.

With the evolution of more complex organisms resulting in an increase in numbers of cells and size of the individual, the problem of regulating the internal environment becomes important. The author discusses the development of the coelomoducts and nephridia to cope with this problem. The relationship of nephridia and coelomoducts in regulating the ionic concentration of the coelomic fluid is described. In addition the gradient resulting from this process of excretion accounts for the differentiation of different portions of the system. The importance of this development for protecting the gametes and the relationship of the sex organs to the coelomoduct-nephridia complex is emphasized. In addition, the common origin of other structures such as the endocrines and lymphatic tissue from this complex accounts for their regulations of the urogenital system in maintaining homeostasis.

The author devotes one chapter to a discussion of the evolution, development and physiology of the eye. This most interesting account appears to be somewhat out of context with the rest of the book, but this subject apparently is of major interest to the author.

In the last chapter Dr. Willmer summarizes some of the relationships in evolution on an

ontogenetic and phylogenetic basis. He emphasizes some of the factors to be considered in an investigation of cellular activity.

The author has presented a most interesting and thought-provoking discussion. One cannot help rationalizing as the various phenomena and relationships are discussed. Whether or not the reader agrees with the author's conclusions and suggestions, the discussions are extremely stimulating. The versatility of the author has provided an approach relating zoology, histology, cytology, embryology, physiology, biochemistry, endocrinology and other disciplines to the question of evolution. It is indeed refreshing to observe such a broad approach to a biological question in an era when the production of narrowly specialized "scientists" unfortunately dominates the development of broadly trained academicians.

This book should be on the reading list of all scientists (teachers and researchers) interested in any of the areas mentioned above. In addition, I would also recommend that graduate students in biology be encouraged to read this text. I do not believe many formal courses exist for which the book would be adopted per se except as a reference, particularly (and fortunately) in the pharmacy curriculum. However, this reviewer would suggest this text be included in the pharmacy library.

Leslie C. Costello
University of Maryland

F. M. Burnet

Principles of Animal Virology
New York: Academic Press, 1960.
ix + 490 pp., 34 figs. \$12.00.

Although obvious to virologists familiar with discussions of viruses as animal, plant or bacterial viruses, the title of this book may be misconstrued by others as pertaining to the veterinary field only. The book itself, however, is a clear, easy-to-read discussion of the factors and principles involved in viral infection of living cells, either animal or man, and therefore has appeal to many others besides the experts in virology. The author, a Nobel Prize winner in 1960, has made extensive revisions from the First Edition to correlate the recent discoveries in virology with previous observations and knowledge.

After an introductory chapter, the author delves slightly into cell structure and virus structure as background for discussion of the relationships between the two organisms, which are then treated stepwise from the initiation of cellular infection, through multiplication and liberation of virus to the effects

and changes produced in the cell. Several chapters deal rather extensively with the entire subject of development of clinical disease resulting from the initial cellular infection and especially the development of immunity. Several of the final chapters include an interesting philosophical discussion of the ecology, genetics and evolution of animal viruses, including the author's opinions as to future evolutionary developments of viruses, hinting at the emergence of new strains of polio and influenza viruses in the next fifty to 100 years.

The discussions of immunological development and genetics are extremely informative, but one might wish for more emphasis on the biochemical aspects of viruses and their reactions within the host cells.

Although the book is obviously too specialized for any ordinary bacteriology course in the pharmacy curriculum, it would make a worthwhile addition to anyone's library, only a fundamental knowledge of bacteriology and physiology being required for comprehension of the subject-matter. For anyone interested in pursuing the subject of virology more extensively, the author has compiled a rather comprehensive list of references at the end of each chapter.

Raymond Eling
University of Cincinnati

Warren H. Cole and Charles B. Puestow

First Aid: Diagnosis and Management.
Fifth Edition
New York: Appleton-Century-Crofts, Inc.,
1960. xii + 420 pp., 113 figs., 6 tpls. \$11.00.

The First Edition of *First Aid, Diagnosis and Management* was prepared early in 1942 because our entrance into World War II produced an immediate demand for a thorough knowledge of first aid. Subsequent editions have been published at periodic intervals. The Fourth Edition was published in 1951.

During the past decade there has been a marked increase in the destructive power of the implements of war as well as an increase in the frequency of automobile accidents, home accidents, and farm accidents. Fortunately, these events have been accompanied by great strides in our knowledge of medical care. Because of these changes the authors have thoroughly reviewed and largely rewritten the entire text. This book, the Fifth Edition, is the result of their efforts.

There has been little revision of those factors dealing with well-established fundamentals, basic medical principles, and tried and proven methods of treatment. However,

the management of many emergencies described in the previous edition has been modernized, and the discussion of them has undergone extensive revision.

The following major changes in the organization of the material are noteworthy. The chapter on "Gas and Bomb Raids" has been replaced by a larger and more comprehensive chapter entitled "Missiles, Rockets, Nuclear Bombs and Other Forms of Attack." The chapter on "Respiratory Emergencies" has been reworked and expanded to include some of the newer methods of dealing with respiratory arrest. In considering "Wounds of the Mouth, Face, and Jaw," the discussion of jaw injuries has been expanded. Other chapters which have received marked revision are "Transportation of the Injured," "First Aid in Industry," and "Injuries of the Chest." A section on injuries to the heart has been included in the latter. A chapter on "Injuries of the Hand" has been added to the Fifth Edition.

New terminology and classifications are used throughout the book when applicable to the subject under discussion. For example, the former classification of fractures as either "simple" or "compound" has been replaced by the terms "closed" or "open" fractures.

This book presents a much more advanced and detailed consideration of first aid procedures than is found in the *First Aid Text Book of the American National Red Cross* (Fourth Edition). The presentation appears to be directed to lay individuals who have a strong interest in first aid as well as to members of the allied medical professions.

Many educators consider a course in first aid or emergency medical treatment to be essential to a well-rounded professional pharmacy curriculum. For curriculums which include course work in this area, this book would provide an insight into the problems of diagnosis and management which is in keeping with the professional position of the modern pharmacist as a member of the medical team. In my opinion this book would serve as an excellent text for a course in first aid or emergency medical treatment and as a most desirable addition to every retail pharmacy, hospital, and college library.

Charles L. Braucher
Purdue University

John C. Finerty and E. V. Cowdry
A Textbook of Histology. Fifth Edition
Philadelphia: Lea and Febiger, 1960.
573 pp., 374 figs., 30 tpls. \$11.00.

The basic concepts involved in the science of histology, including histological techniques, are discussed in the introductory chapters of this text. The general outline of this book follows the classical arrangement of other histology texts in that the primary tissues are considered first followed by the histology of organs. At the end of each chapter the authors have included a short summary and list of references.

The illustrations, many of which are in color, add to this text and illustrate the fine details of various structures within cells. The tables summarize the characteristics of a particular tissue or organ. These tables should be a valuable aid to the student of histology. A bibliography is given at the end of the book. The organization of the material within each chapter is excellent and written in a clear, easy-to-understand manner.

In the opinion of this reviewer the outstanding sections in this text are those dealing with the muscular system, nervous tissue, the integument, the endocrine system and the chapter on the liver and pancreas. The discussion of the reticulo-endothelial system is adequate; however, more theory could have been included. An illustration showing the various zones in bone formation would have made this discussion more understandable. This reviewer also feels that more details and diagrams would have given the student a better understanding of the circulation through the kidney, liver and lungs.

The chapter entitled "Retrospect" is a credit to the authors. After reading this chapter one realizes the many concepts involved in what is termed "life." The last chapter dealing with the "Microscopic Determination of Normality" discusses common errors in interpretation of fixed histological preparations. Perhaps this chapter should be read first by the student of histology.

This book would be particularly useful to graduate students. The reviewer feels that this text would be a useful addition to a college of pharmacy library.

Thomas D. Malewitz
University of Florida

New Books

Byrd S. Leavell and Oscar A. Thorup, Jr.
Fundamentals of Clinical Hematology. Philadelphia: W. B. Saunders Company, 1960. xi + 503 pp., 71 figs., 20 tpls. \$10.00.

G. C. Simpson, Anne Roe, and R. C. Lewontin
Quantitative Zoology. New York: Harcourt, Brace and Company, 1960. vii + 440 pp., figs., tpls. \$8.00.

W. Bladergroen
Problems in Photosynthesis. Springfield, Illinois: Charles C Thomas, 1960. xiii + 198 pp., 70 figs., 24 tpls. \$10.50.

Henry K. Beecher, Editor
Disease and the Advancement of Basic Science. Cambridge: University Press, 1960. xi + 416 pp., figs., tpls. \$12.50.

Richard M. Jones
An Application of Psychoanalysis to Education. Springfield, Illinois: Charles C. Thomas, 1960. xi + 124 pp., 1 fig., 7 tpls. \$5.50.

R. P. Spencer
The Intestinal Tract. Springfield, Illinois: Charles C Thomas, 1960. xvii + 411 pp., 15 figs., 18 tpls. \$12.75.

John A. Dean
Flame Photometry. New York: McGraw-Hill Book Company, Inc., 1960. viii + 354 pp., figs., tpls. \$11.50.

Ernest Dichter
The Strategy of Desire. New York: Doubleday & Company, Inc., 1960. 314 pp., illus. \$3.95.

H. Kalmus and S. J. Hubbard
The Chemical Senses in Health and Disease. Springfield, Illinois: Charles C Thomas, 1960. vii + 95 pp., 10 figs., 2 tpls. \$3.75.

Fred Reinfeld
What's New in Science. New York: Sterling Publishing Company, Inc., 1960. 204 pp., illus. \$3.95.

Charles D. Hodgman, Editor
Handbook of Chemistry and Physics. Cleveland: The Chemical Rubber Publishing Company, 1960. xxiii + 3,481 pp., figs., tpls. \$12.00.

Carl J. Wiggers and McKeen Cattell, Editors
Cardiovascular Effects of Nicotine and Smoking. New York: The New York Academy of Sciences, 1960. 344 pp., figs., tpls. \$4.00 (paper).

H. A. Liebhafsky, H. G. Pfeiffer, et al.
X-Ray Absorption and Emission in Analytical Chemistry. New York: John Wiley & Sons, Incorporated, 1960. x + 357 pp., figs., tpls. \$13.50.

Janet B. Gunnison
Laboratory Manual of Medical Microbiology. Palo Alto, California: N-P Publications, 1960. viii + 243 pp., tpls. \$3.50 (paper).

Marcel Florin and Howard S. Mason, Editors
Comparative Biochemistry, Volume II. New York: Academic Press, 1960. xix + 685 pp., figs., tpls. \$20.00.

S. E. Wright
The Metabolism of Cardiac Glycosides. Springfield, Illinois: Charles C. Thomas, 1960. viii + 86 pp., 14 figs., 6 tpls. \$4.75.

James B. Allison and William H. Fitzpatrick
Dietary Proteins in Health and Disease. Springfield, Illinois: Charles C Thomas, 1960. viii + 86 pp., 12 figs., 5 tpls. \$4.50.

John Y. D. Tse
Profit Planning Through Volume-Cost Analysis. New York: The Macmillan Company, 1960. x + 240 pp., figs., tpls. \$7.95.

Magnus Pyke
About Chemistry. New York: The Macmillan Company, 1960. viii + 219 pp., 68 figs., 2 tpls. \$4.50.

Ignatius J. Bellafiore

Pharmaceutical Arithmetic. Fourth Edition. Seaford, New York: Ignatius J. Bellafiore, 1960. 152 pp. \$4.25 (paper).

Paul R. Gross, Editor

Second Conference on the Mechanisms of Cell Division. New York: The New York Academy of Sciences, 1960. 268 pp., figs., tpls. \$4.50 (paper).

G. K. T. Conn and D. G. Avery

Infrared Methods. New York: Academic Press, 1960. viii + 203 pp., figs., tpls. \$6.80.

Konrad Bloch, Editor

Lipide Metabolism. New York: John Wiley & Sons, Incorporated, 1960. xiii + 411 pp., figs., tpls. \$10.50.

George C. Pimentel and A. L. McClellan

The Hydrogen Bond. San Francisco: W. H. Freeman and Company, 1960. viii + 475 pp., 96 figs., 110 tpls. \$11.40.

Curt Stern

Principles of Human Genetics. Second Edition. San Francisco: W. H. Freeman and Company, 1960. x + 753 pp., 265 figs., 124 tpls. \$9.50.

Felix Diepenbrock, Editor

Gehes Codex. Ninth Edition. Stuttgart: Wissenschaftliche Verlagsgesellschaft M.B.H., 1960. xii + 1,392 pp. DM 145 (about \$35.00).

MISCELLANEOUS

Corn in Industry. Fifth Edition. Washington, D.C.: Corn Industries Research Foundation, Inc., 1960. 63 pp., illus. Free (paper).

Physicians for a Growing America. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1959. xiv + 95 pp., illus. \$0.60 (paper) (Public Health Service Publication No. 709).

Accredited Higher Institutions, 1960. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1960. 97 pp. \$0.60 (paper) (Cat. No. FS 5.3:954/5).

Synthetic Organic Chemicals, United States Production and Sales, 1959. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1960. 203 pp. \$1.00 (paper) (Cat. No. TC 1.9:206).

T. E. Wallis

Textbook of Pharmacognosy. Fourth Edition. Boston: Little, Brown and Company, 1960. xi + 640 pp., 246 figs. \$10.00.

Betsy Marden Silverman, Editor

Positive Health of Older People. New York: The National Health Council, 1960. x + 131 pp. \$2.25 (paper).

J. K. Grant and W. Klyne, Editors

Steric Aspects of the Chemistry and Biochemistry of Natural Products. New York: Cambridge University Press, 1960. vii + 137 pp., figs., tpls., plates. \$5.50.

I. A. Utkin, Editor

Theoretical and Practical Problems of Medicine and Biology in Experiments on Monkeys. Translated from the Russian by R. Schachter. New York: Pergamon Press Inc., 1960. vii + 276 pp., figs., tpls. \$7.50.

Walter Modell

Drugs in Current Use, 1961. New York: Springer Publishing Company, Inc., 1961. iv + 154 pp. \$2.25 (paper).

William C. Stickler

General Organic Chemistry. New York: Longmans, Green & Co., Inc., 1960. x + 630 pp., figs., tpls. \$7.00.

Iago Galdston, Editor

Human Nutrition Historic and Scientific. New York: International Universities Press, 1961. xvii + 321 pp., figs., tpls. \$6.00.

What Consumers Should Know About Food Additives. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1960. 12 pp. \$0.15 (paper) (Cat. No. FS 13.117:10).

Rescue Skills and Techniques. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1959. 82 pp., illus. \$0.50 (paper) (Cat. No. Pr. 34.761/3:14-1).

Health and Safety Code. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1958. 363 pp., illus. \$1.25 (Cat. No. A 13.36:H 34).

Bandaging and Splinting. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1957. 83 pp., illus. \$0.30 (paper) (Cat. No. D 101.20:8-50).

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